

# Annual Report Tuberculosis & Chest Service 2021



Department of Health  
Hong Kong Special Administrative Region

# CONTENT

---

Chapter		Page
<b>I.</b>	<b>Preface</b>	<b>1</b>
<b>II.</b>	<b>Tuberculosis &amp; Chest Service</b>	<b>7</b>
<b>III.</b>	<b>Tuberculosis in Hong Kong</b>	<b>9</b>
Appendix 1	TB Notification & Death Rate of Tuberculosis (All Forms) from 1947-2021	10
Appendix 2	TB Notification Rate (All Forms) from 1951 - 2021	12
Appendix 3	Crude Death Rate due to Tuberculosis (All Forms) from 1910 - 2021	13
Appendix 4(a)	Tuberculosis (All Forms) Notification and Rate by Sex and Age 2021	14
Appendix 4(b)	Pulmonary Tuberculosis Notification by Sex and Age 2021	15
Appendix 4(c)	Pulmonary Tuberculosis Notification Rate by Sex and Age 2021	16
Appendix 5	Tuberculosis Notification Rate by Sex and Age 2011, 2020 and 2021	17
Appendix 6	Notification of TB by TB Types, Sex and Age 2021	18
Appendix 7	Tuberculosis (All Forms) Deaths and Rate by Sex and Age 2021	19
Appendix 8	Tuberculosis Mortality Rate by Sex and Age 2011, 2020 and 2021	20
Appendix 9	Tuberculosis Deaths by TB Types, Sex and Age 2021	21
Appendix 10	Tuberculosis Mortality from 1950 - 2021	22
Appendix 11	Top Ten Causes of Death in Hong Kong 2021	24
Appendix 12(a)	Sources of Tuberculosis Notification from 2011 - 2021	25
Appendix 12(b)	Breakdown of Tuberculosis Notification from H.A. Hospitals 2021	26
Appendix 13	Tuberculosis Notification and Notification Rate by District Council Districts 2021	27
Appendix 14	Establishment and Strength of Tuberculosis and Chest Service	28
Appendix 15	Total Attendance at Chest Clinics from 2011 - 2021	29
Appendix 16	Number of Doctor Sessions, Cases Seen by Doctor and Patient/Doctor Session 2021	30
Appendix 17	Diagnosis and Characteristics of Patients Attending Chest Clinics 2021	31
Appendix 18(a)	Classification of Diseases of First Attenders in 2021 according to International Classification of Diseases Code	32
Appendix 18(b)	Characteristics of Active Respiratory Tuberculosis in First Attenders at Chest Clinics from 2019 - 2021	33
Appendix 19(a1)	Rate of Drug-resistant Tuberculosis: Among cases registered during the period January to December 2021 (Data from PHLC)	34

## CONTENT

---

Chapter	Page
Appendix 19(a2) Rate of Drug-resistant Tuberculosis: Among cases with date of starting treatment during the period January to December 2021	35
Appendix 19(b1) Trend of anti-TB drug-resistance from 2002 - 2021	36
Appendix 19(b2) Trend of Overall anti-TB drug-resistance from 2002 - 2021	37
Appendix 19(c) MDR-TB and XDR-TB from 2011 - 2020	38
Appendix 19(d) Revised Definition of Extensively Drug-resistant Tuberculosis since 2021	39
Appendix 20(a) Treatment Return 2021 – Service Regimen	40
Appendix 20(b) Treatment Return 2021 – Other Regimens	41
Appendix 21(a) Scheme for Investigation of Close Contacts (Household) in the Tuberculosis & Chest Service, Department of Health	45
Appendix 21(b) Figure 1: General schema for targeted screening of household contacts of smear-positive pulmonary TB patients	46
Figure 2: Targeted screening of household contacts aged below one year	47
Figure 3: Targeted screening of household contacts aged between 1 to 11	48
Appendix 21(c) Examination of Contacts in the Chest Clinics 2021	49
Appendix 22(a) Scheme for BCG Administration in Hong Kong 2021	50
Appendix 22(b) BCG Vaccinations at Birth 2021	51
Appendix 23 Tuberculosis and Chest Beds in Public Services 2021	52
Appendix 24 Annual Admissions to Chest Hospitals from Government Chest Clinics 2012 - 2021	53
Appendix 25 HIV Surveillance Among TB Patients	54
Appendix 26 Number of ‘Confirmed’ cases of TB in Health Care Staff Notified to Labour Department 1999 - 2021	55
Appendix 27 Treatment outcomes of Cohorts of TB Patients	56
<b>IV. Pneumoconiosis</b>	<b>57</b>
Appendix 1 New Cases of Suspected Pneumoconiosis / Mesothelioma attending the Pneumoconiosis Clinic in Hong Kong 1956 - 2021	58
Appendix 2 Age Distribution of Pneumoconiosis Patients confirmed in 2021	60
Appendix 3 Occupation Distribution of Pneumoconiosis Patients confirmed in 2021	61
Appendix 4 Pneumoconiosis Patients confirmed in 2021 by Duration of Exposure to Dust	61
Appendix 5 Pneumoconiosis Patients confirmed in 2021 by Degree of Incapacity	62

## CONTENT

---

Chapter		Page
Appendix 6	Pneumoconiosis Patients confirmed in 2021 Classified by Radiological Appearance	63
Appendix 7	History of Tuberculosis (TB) among Patients with Pneumoconiosis confirmed in 2021	64
Appendix 8	Pneumoconiosis Patients confirmed in 2021 by Other Particulars	64
ADDENDUM		65
<b>V. Other findings</b>		<b>66</b>
Annex 1(a)	TB Among Chinese New Immigrants	67
Annex 1(b)	TB Notifications and Estimated Rate Among Chinese New Immigrants by Sex and Age from 2017 - 2021	68
Annex 2(a)	TB Notifications and Rate (All Cases) by Sex and Age from 2017 - 2021	69
Annex 2(b)	Trend of age-specific TB Notification Rate from 1970 - 2021	70
Annex 3	TB-HIV Registry	71
Annex 4	Crude and Standardised Death Rate and Notification Rate 2001 - 2021	76
Annex 5	HBsAg Seroprevalence Survey Among TB Patients Seen at Chest Clinics 2021	77
<b>Supplement</b>		<b>78</b>
—	Notification Form of TB under the Prevention and Control of Disease Ordinance (Cap. 599) – DH1A(s)(Rev. Jul 2008)	
—	Denotification Form of TB	
—	Notification Form of Occupational Diseases under the Occupational Safety and Health Ordinance (Cap. 509) – LD483 (Rev.8.2.2005)	
—	Programme Record Form – DH2417	

# I. Preface

### **Global Epidemiology**

Tuberculosis (TB), a longstanding infectious disease that affects people irrespective of age and sex, is curable and preventable. In 2021, it was estimated that 10.6 million people fell ill with TB, including 6 million men, 3.4 million women and 1.2 million children. For the mortality, a total of 1.6 million people died from TB (including 187 000 people with HIV). Worldwide, TB is the 13<sup>th</sup> leading cause of death and the second leading infectious killer after COVID-19.

In 2021, the largest number of new TB cases occurred in the World Health Organization (WHO) South-East Asian Region, with 45% of new cases, followed by the WHO African Region, with 23% of new cases and the WHO Western Pacific with 18%. The 30 high TB burden countries accounted for 87% of new TB cases.

Regarding the issue of multidrug-resistant or rifampicin-resistant TB (MDR/RR-TB), it remained to be a public health threat. WHO updated the definition of extensively drug-resistant TB (XDR-TB) in 2021 to TB caused by *Mycobacterium tuberculosis* strains that fulfill the definition of MDR/RR-TB and that are also resistant to any fluoroquinolone and at least one additional Group A drug (Bedaquiline or linezolid). Globally, 71% of people diagnosed with bacteriologically confirmed pulmonary TB were tested for rifampicin resistance. Among the 2.4 million cases tested, 141 953 cases (5.9%) of MDR/RR -TB and 25 038 cases (1.0%) of pre-XDR-TB or XDR-TB were detected. It is estimated that only about one in three people with MDR/RR-TB received treatment in 2021. The TB outcome data showed a worldwide treatment success rate of MDR/RR-TB patients to be 60% in 2019 cohort. Bedaquiline-based and all oral regimens were more widely adopted by most countries.

The End TB Strategy defines milestones as a 35% reduction in the number of TB deaths and a 20% reduction in the TB incidence rate compared with levels in 2015. These milestones set for 2020 have not yet been reached either globally or in most WHO regions and countries. The occurrence of COVID-19 pandemic has significantly hindered the progress in reducing the global burden of TB disease.

### **Local epidemiology**

In Hong Kong, the number of TB notifications in 2021 was 3 716, and the TB notification rate was 50.1 per 100 000. The corresponding figures in 2020 were 3 656 and 48.9 per 100 000. TB deaths accounted for 0.33 % of the total registered deaths in Hong Kong and stayed outside the top ten causes of death in 2021. The drop in TB notification rate in 2020 as compared with 2019 with a subsequent rise in

## ***I. Preface***

---

TB notifications in 2021 was likely attributed to COVID-19 pandemic which had an impact on TB diagnosis and treatment. A similar trend was also observed worldwide.

With the successful implementation of passive case-finding, rapid diagnosis, timely initiation of effective anti-TB treatment and directly observed treatment (DOT) in an ambulatory outpatient setting, the TB notification rate decreased from a historical peak of 697.2 per 100 000 in 1952 to 50.1 per 100 000 in 2021. In Hong Kong, the TB notification rate declined more slowly in recent years because of the ageing population and reactivation of TB from this pool of latent infection. Tackling the challenge of an ageing population appears to be a key step in further reducing the local TB notification and TB death rates. The local preventive treatment for targeted household contacts has been extended to those age under 65. However, despite an increased accessibility of diagnostic tools in screening latent TB infection (LTBI) and the heightened awareness of the role of preventive treatment, treatment of LTBI is still hampered by clients' acceptance and any adverse events such as hepatotoxicity in particular among the older age group.

### **Challenges on TB Control**

#### The effect of COVID-19 pandemic and vaccination

In early 2020, the COVID-19 outbreak was declared a Public Health Emergency of International Concern by the WHO. A lot of the medical resources were shifted to combat this novel coronavirus. The daily activities and the health seeking behavior of most people were changed. With the introduction of COVID-19 vaccines in Hong Kong in early 2021, people gradually resumed their daily activities. These changes were reflected by the increased number of attendance and the slight rise in TB notification in 2021.

#### Ageing Population

The population in Hong Kong rose from 6.73 million to 7.40 million from 2001 to 2021. Of which 11.4% and 20.2% were aged 65 or above in 2001 and 2021 respectively. It is projected that more than a quarter of the local population will be 65 or above by 2030. The TB notification rate of those aged 75 or above were around 3 times that of the general population. The average age of the TB deaths was 74.7 in 2021 with more than three-quarters of mortality being 65 years old or above. Management of TB in elderly is challenging as they have, in general, more comorbidities. It is also well known that they may experience adverse effects such as hepatotoxicity more commonly during anti-TB treatment. Close monitoring of any side-effects during treatment is of paramount importance.

## ***I. Preface***

---

### Co-morbidities of TB patients

Diabetes mellitus (DM) has been recognized as the most common TB comorbidity in Hong Kong. A previous local study showed that DM patients had more extensive disease, more adverse effects from treatment and lower success rates as compared with non-diabetic patients. DM control is an important factor affecting the response to anti-TB treatment. Apart from DM, HIV infection is another risk factor for the development of TB. In 2021, the prevalence of HIV co-infection among our TB patients remained low at 0.9%. In our service, DM screening and HIV testing are routinely offered to TB patients attending chest clinics.

### Multidrug-resistant and extensively drug-resistant tuberculosis

WHO implemented new definitions of pre-XDR and XDR-TB with effect from January 2021 onwards. Pre-XDR-TB is defined as TB caused by *Mycobacterium tuberculosis* strains that fulfill the definition of MDR/RR-TB and that are also resistant to any fluoroquinolone, whereas XDR-TB is TB caused by *Mycobacterium tuberculosis* strains that fulfill the definition of MDR/RR-TB and that are also resistant to any fluoroquinolone and at least one additional Group A drug (Current Group A drugs are levofloxacin or moxifloxacin, bedaquiline and linezolid). With all the efforts, in 2021, the rate of MDR-TB in Hong Kong was kept at low level at 0.66% of all culture confirmed TB cases. There was no case of extensively drug-resistant TB (XDR-TB). Owing to the travel restrictions during COVID-19 pandemic, the problem of population movement and the potential cross-border transfer of drug-resistant TB was not significant in 2021. Yet, continuous vigilance on the early diagnosis and treatment of drug-resistant TB is important.

## **Way Forward**

### Surveillance and early detection of drug-resistant TB

Close collaboration with the Public Health Laboratory Services Branch to monitor the local drug resistance pattern and regular reporting and sharing of data with WHO are important strategies to monitor the trend of drug resistance in Hong Kong and our neighbouring countries. The Department of Health of Hong Kong SAR will continue to observe the trend of drug resistance rates and enhance the surveillance. Molecular tests for rapid diagnosis of TB and detection of drug resistance among sputum smear-positive cases and selected smear-negative cases before the availability of culture-based drug susceptibility results are useful ways for early detection and effective control of drug-resistant TB.

### Effective anti-tuberculosis treatment

Effective first-line anti-TB treatment under directly observed therapy remains to be the cornerstone of TB control. For drug-resistant TB, the development of new drugs and the introduction of repurposed agents

## *I. Preface*

---

in recent years are bringing new hope to the treatment of MDR-TB and XDR-TB. Since 2019, there has been an increasing use of bedaquiline, linezolid and clofazimine in addition to levofloxacin and cycloserine as the composition of the individualized longer MDR-TB regimen for treatment of MDR-TB. In 2020, WHO recommended a new shorter all-oral bedaquiline-containing regimen of 9-12 months for a selected group of MDR/RR-TB patients who have no fluoroquinolone resistance and without previous exposure to second-line drugs (including bedaquiline) for patients with MDR-TB. However, patient's tolerance of the short regimen is still a challenge. For patients with MDR/RR-TB and additional fluoroquinolone resistance, a new 6-9 months regimen composed of bedaquiline, pretomanid and linezolid (BPaL) has been conditionally recommended under operational research conditions only.

The in-patient management of MDR- and XDR-TB is supported by the chest units of the Grantham Hospital and Kowloon Hospital which are the two designated hospital units under Hospital Authority (HA) for hospitalization of MDR- and XDR-TB patients. Close liaison with the HA colleagues is maintained and biweekly joint case conferences are conducted to facilitate the management of these difficult cases.

### Tuberculosis Preventive Treatment (TPT) for LTBI

Targeted screening of four main high-risk groups is conducted locally. They are household contacts of sputum smear-positive patients, people with silicosis, people living with HIV and patients initiating anti-tumour necrosis factor (TNF) biologics. Tuberculin skin test (TST) and/or the interferon gamma release assays (IGRA) are the screening tests deployed. For TPT, six-to-nine-month Isoniazid, 12-week weekly rifapentine plus isoniazid regimen given under supervision and 4-month rifampicin are the regimens commonly offered. The completion rate of TPT ranged from 80% to over 90% with a higher completion rate among cases on the shorter TPT regimens.

### Neonatal BCG vaccination

Neonatal BCG is routinely given in Hong Kong at birth with a high coverage rate of 99.1% in 2021. On the other hand, the BCG revaccination programme for primary school children has been stopped since the school year starting from September 2000.

### Public health function

In recent years, the Department of Health has enhanced its public health function by stepping up its local enforcement measures to contain the spread of TB within our community. For non-compliant TB patients posing public health hazards, we may need to issue medical examination orders or isolation orders with reference to the Prevention and Control of Disease Ordinance (CAP 599). They are often taken as a last resort when all other non-coercive measures such as counselling, education and psychosocial support fail.

## ***I. Preface***

---

Cross-jurisdiction notification has also been enhanced when managing TB cases leaving Hong Kong.

### Collaboration with other research parties

Tuberculosis & Chest Service (TB&CS) has been actively collaborating with other local and overseas health authorities and academics in conducting studies and researches with an aim to further improve the TB management. Collaboration with local experts was made to review international guidelines and local TB situations. Local guidelines for management of LTBI in household contacts, patients with silicosis, people living with HIV and patients on anti-TNF biologics were published in TB&CS website. In addition, regular academic activities were organized with the health authorities in the Mainland China and Macao.

### Health Promotion

#### Promotion of smoking cessation

The link between smoking and TB has long been reported. Studies showed that tobacco smoking increased the risk of TB infection and disease, negatively influenced the response to treatment and also increased the risk of relapse. In collaboration with the Tobacco and Alcohol Control Office, very brief advice on smoking cessation are actively practised when serving clients attending chest clinics.

#### World TB Day and community support

Measures to raise the public awareness of TB and to mobilize support from the community are of great importance to the success of TB control. It has been achieved through school education and public health talks. Despite the COVID-19 pandemic, a series of activities were conducted to echo the World TB Day of 24 March 2021. Activities included updating TB information on TB&CS website, launching an Announcement for Public Interest (API) on TV, radio, and other media and promoting the World TB Day via the RTHK radio programme “Healthpedia” and an article in a health column of a local newspaper.

With all these activities, it is hoped that the health care workers, the public and all other stakeholders would be able to join hands to fight against this endemic disease.

## **II. Tuberculosis & Chest Service**

## ***II. Tuberculosis and Chest Service***

---

Approximately 80% of notified TB cases are managed in the Government TB&CS. In 2021, a total of 56 229 persons (including 9 066 new patients) attended chest clinics and the total attendance was 525 930. The corresponding figures in 2020 were 57 022 and 427 969. The slightly rise in total attendance was attributed to a gradual resumption of normal activities after the implementation of COVID-19 vaccination.

The diagnoses among new patients included active pulmonary TB (21.7%), active TB of other forms (8.0%), inactive TB (2.1%), CXR screening and contact examination (31.2%), bronchitis not specified as acute or chronic (1.3%), acute respiratory infection and pneumonia (2.4%), malignant neoplasm of trachea and bronchus (0.8%) and other respiratory symptoms or diseases (10.1%). A total of 919 hospital admissions were arranged.

For the Pneumoconiosis Clinic (the Clinic), it continued to provide a full range of outpatient services to patients with suspected or confirmed pneumoconiosis and mesothelioma. Apart from supporting the operation of Pneumoconiosis Medical Board (the Board) in assessment aspect under the Pneumoconiosis and Mesothelioma (Compensation) Ordinance (the Ordinance), the Clinic also provides services addressing the patients' diversified needs in terms of treatment, prevention and rehabilitation. In 2021, 124 cases with suspected pneumoconiosis or mesothelioma were examined by the Board under the Ordinance, and 93 new patients (67 cases of silicosis, 6 cases of asbestos-related lung disease, 19 cases of mesothelioma and 1 case of both asbestosis and mesothelioma) were confirmed by the Board. Up to the end of 2021, a total of 5 363 patients had been confirmed by the Board as having pneumoconiosis and/or mesothelioma under the Ordinance with the date of diagnosis on or after 1 January 1981.

# **III. Tuberculosis in Hong Kong**

### III. Tuberculosis in Hong Kong

#### Appendix 1 TB Notification & Death Rate of Tuberculosis (All Forms) from 1947 - 2021

Year	TB Notifications			Notification Rate <sup>(3)</sup>	Number of Death <sup>(4)</sup>	Death Rate <sup>(5)</sup>	Ratio <sup>(6)</sup>	(Death / Notifications) x 100%
	Number	Vietnamese refugees <sup>(1)</sup>	Chinese immigrants <sup>(2)</sup>					
1947	4 855	-	-	277.4	1 861	106.3	2.6	38.3
1948	6 279	-	-	348.8	1 961	108.9	3.2	31.2
1949	7 510	-	-	404.4	2 611	140.6	2.9	34.8
1950	9 067	-	-	405.3	3 263	145.9	2.8	36.0
1951	13 886	-	-	689.0	4 190	207.9	3.3	30.2
1952	14 821	-	-	697.2	3 573	168.1	4.2	24.1
1953	11 900	-	-	530.7	2 939	131.1	4.1	24.7
1954	12 508	-	-	528.9	2 876	121.6	4.4	23.0
1955	14 148	-	-	568.1	2 810	112.8	5.0	19.9
1956	12 155	-	-	464.9	2 629	100.6	4.6	21.6
1957	13 665	-	-	499.4	2 675	97.8	5.1	19.6
1958	13 485	-	-	472.5	2 302	80.7	5.9	17.1
1959	14 302	-	-	482.0	2 178	73.4	6.6	15.2
1960	12 425	-	-	405.5	2 085	68.0	6.0	16.8
1961	12 584	-	-	397.2	1 907	60.2	6.6	15.2
1962	14 263	-	-	431.5	1 881	56.9	7.6	13.2
1963	13 031	-	-	380.9	1 762	51.5	7.4	13.5
1964	12 557	-	-	358.3	1 441	41.1	8.7	11.5
1965	9 927	-	-	275.9	1 278	35.5	7.8	12.9
1966	11 427	-	-	314.8	1 515	41.7	7.5	13.3
1967	15 253	-	-	409.7	1 493	40.1	10.2	9.8
1968	9 792	-	-	257.5	1 483	39.0	6.6	15.2
1969	11 072	-	-	286.5	1 470	38.0	7.5	13.3
1970	10 077	-	-	254.5	1 436	36.3	7.0	14.3
1971	9 028	-	-	223.2	1 250	30.9	7.2	13.9
1972	8 420	-	-	204.2	1 312	31.8	6.4	15.6
1973	8 152	-	-	192.2	1 154	27.2	7.1	14.2
1974	8 320	-	-	190.0	974	22.2	8.5	11.7
1975	8 192	-	-	183.6	646	14.5	12.7	7.9
1976	7 928	-	-	175.5	568	12.6	14.0	7.2
1977	7 191	-	-	156.9	532	11.6	13.5	7.4
1978	6 623	-	-	141.9	420	9.0	15.8	6.3
1979	7 907	(498)	-	160.4	523	10.6	15.1	6.6
1980	8 065	(712)	-	159.3	551	10.9	14.6	6.8
1981	7 729	(254)	-	149.1	489	9.4	15.8	6.3
1982	7 527	(112)	-	143.0	454	8.6	16.6	6.0
1983	7 301	(73)	-	136.6	446	8.3	16.4	6.1
1984	7 843	(69)	-	145.3	420	7.8	18.7	5.4
1985	7 545	(59)	580	138.3	409	7.5	18.5	5.4
1986	7 432	(46)	544	134.5	407	7.4	18.3	5.5
1987	7 269	(41)	495	130.3	405	7.3	18.0	5.6
1988	7 021	(121)	433	124.8	388	6.9	18.1	5.5
1989	6 704	(226)	387	117.9	403	7.1	16.6	6.0
1990	6 510	(288)	341	114.1	382	6.7	17.0	5.9
1991	6 283	(281)	293	109.2	409	7.1	15.4	6.5
1992	6 534	(309)	264	112.6	410	7.1	15.9	6.3
1993	6 537	(264)	89	110.8	396	6.7	16.5	6.1
1994	6 319	(230)	87	104.7	409	6.8	15.5	6.5
1995	6 212	(175)	102	100.9	418	6.8	14.9	6.7
1996	6 501	(88)	162	101.0	292	4.5	22.3	4.5
1997	7 072	(34)	156	109.0	252	3.9	28.1	3.6
1998	7 673	(7)	169	117.3	270	4.1	28.4	3.5
1999	7 512	(5)	166	113.7	312	4.7	24.1	4.2
2000	7 578	(7)	152	113.7	299	4.5	25.3	4.0
2001	7 262	(0)	192	108.2	311	4.6	23.4	4.3

### III. Tuberculosis in Hong Kong

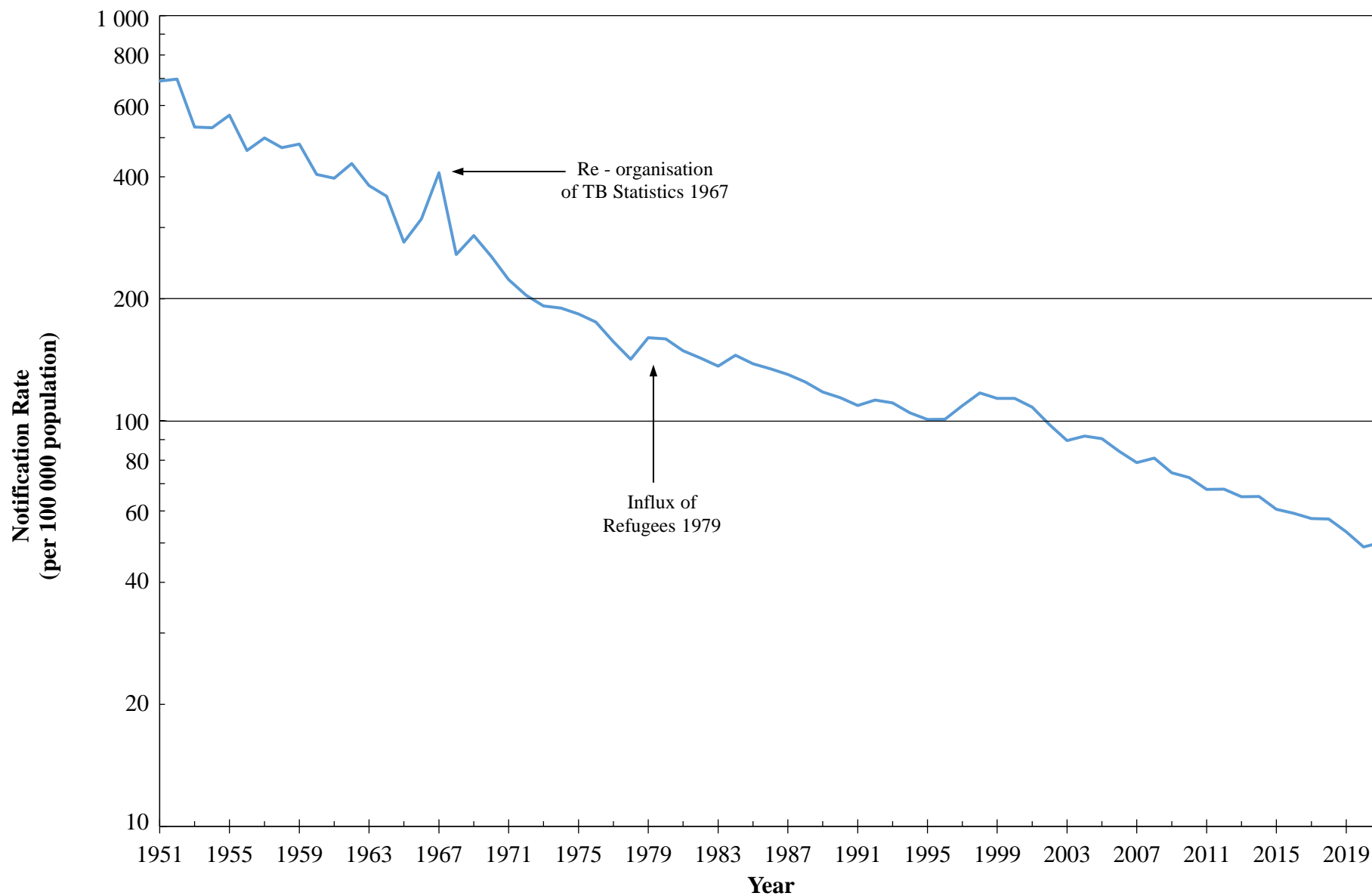
#### Appendix 1 TB Notification & Death Rate of Tuberculosis (All Forms) from 1947 - 2021 ---cont'd

Year	TB Notifications			Notification Rate <sup>(3)</sup>	Number of Death <sup>(4)</sup>	Death Rate <sup>(5)</sup>	Ratio <sup>(6)</sup>	(Death / Notifications) x 100%
	Number	Vietnamese refugees <sup>(1)</sup>	Chinese immigrants <sup>(2)</sup>					
2002	6 602	(0)	186	97.9	267	4.0	24.7	4.0
2003	6 024	(0)	177	89.5	275	4.1	21.9	4.6
2004	6 226	(0)	110	91.8	286	4.2	21.8	4.6
2005	6 160	(0)	77	90.4	271	4.0	22.7	4.4
2006	5 766	(0)	58	84.1	294	4.3	19.6	5.1
2007	5 463	(0)	56	79.0	231	3.3	23.7	4.2
2008	5 635	(0)	67	81.0	229	3.3	24.6	4.1
2009	5 193	(0)	68	74.5	204	2.9	25.5	3.9
2010	5 093	(0)	80	72.5	191	2.7	26.7	3.8
2011	4 794	(0)	81	67.8	187	2.6	25.6	3.9
2012	4 858	(0)	100	67.9	199	2.8	24.4	4.1
2013	4 664	(0)	92	65.0	178	2.5	26.2	3.8
2014	4 705	(0)	85	65.1	187	2.6	25.2	4.0
2015	4 418	(0)	82	60.6	169	2.3	26.1	3.8
2016	4 346	(0)	67	59.2	160	2.2	27.2	3.7
2017	4 250	(0)	78	57.5	184	2.5	23.1	4.3
2018	4 268	(0)	92	57.3	190	2.5	22.5	4.5
2019	4 003	(0)	110	53.3	205	2.7	19.5	5.1
2020	3 656	(0)	83	48.9	200	2.7	18.3	5.5
2021	3 716	(0)	84	50.1	169	2.3	22.0	4.5

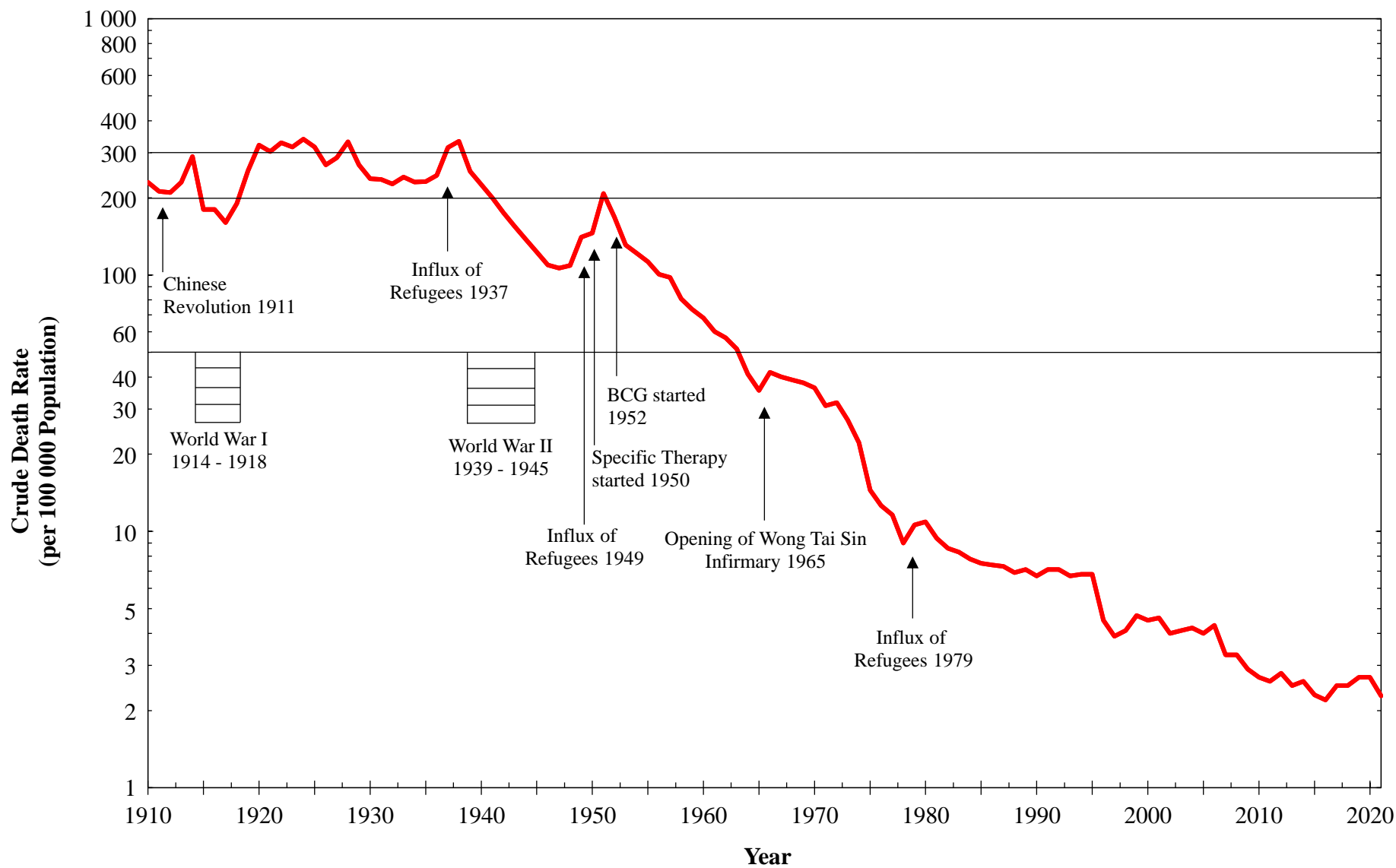
#### Notes:

- (1) Figures in brackets denote the number of Vietnamese refugees included.
- (2) Figures of Chinese immigrants denote the new arrivals from Mainland having resided in Hong Kong for less than 7 years.
- (3) Notification rate per 100 000 population.
- (4) Data source: Death Registry, Department of Health.
- (5) Death rate per 100 000 population.
- (6) Ratio of Tuberculosis notifications per death.

## Appendix 2 TB Notification Rate (All Forms) from 1951 - 2021



### Appendix 3 Crude Death Rate due to Tuberculosis (All Forms) from 1910 - 2021



### III. Tuberculosis in Hong Kong

#### Appendix 4(a) Tuberculosis (All Forms) Notification and Rate by Sex and Age 2021

Age group	TB notifications			Notification rate <sup>(1)</sup>		
	Male	Female	Total	Male	Female	Total
Under 1	1	0	1	1.70	1.79	1.75
1	1	0	1			
2	0	1	1			
3	0	0	0			
4	0	1	1			
5 - 9	0	1	1	0.00	0.71	0.35
10 - 14	6	9	15	4.01	6.44	5.18
15 - 19	32	15	47	23.72	11.54	17.74
20 - 24	42	50	92	25.50	30.96	28.20
25 - 29	56	84	140	26.11	34.44	30.54
30 - 34	54	109	163	23.68	36.45	30.93
35 - 39	57	127	184	24.31	35.96	31.31
40 - 44	79	119	198	33.62	33.85	33.75
45 - 49	116	101	217	47.89	29.64	37.22
50 - 54	129	107	236	52.65	32.40	41.03
55 - 59	220	129	349	77.22	37.28	55.32
60 - 64	286	91	377	95.24	29.02	61.41
65 - 69	295	117	412	123.17	46.30	83.71
70 - 74	256	91	347	140.66	48.20	93.58
75 - 79	215	68	283	222.57	67.66	143.58
80 - 84	196	64	260	245.92	74.85	157.38
85 & over	280	111	391	331.36	78.33	172.86
<b>All age groups</b>	<b>2 321</b>	<b>1 395</b>	<b>3 716</b>	<b>68.62</b>	<b>34.61</b>	<b>50.13</b>

Note:

(1) Notification rate per 100 000 population.

### III. Tuberculosis in Hong Kong

#### Appendix 4(b) Pulmonary Tuberculosis Notification by Sex and Age 2021

Age group	Pulmonary TB <sup>(1)</sup>			Bacteriologically <sup>(2)</sup> Positive Pulmonary TB			Smear Positive Pulmonary TB		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 1	1	0	1	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0
2	0	1	1	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0
4	0	1	1	0	0	0	0	0	0
5 - 9	0	0	0	0	0	0	0	0	0
10 - 14	6	8	14	1	2	3	0	1	1
15 - 19	26	12	38	18	7	25	8	1	9
20 - 24	36	37	73	21	22	43	9	9	18
25 - 29	42	60	102	30	38	68	6	18	24
30 - 34	41	75	116	25	46	71	12	19	31
35 - 39	44	82	126	24	58	82	13	32	45
40 - 44	65	72	137	38	54	92	16	27	43
45 - 49	90	68	158	63	47	110	31	20	51
50 - 54	107	71	178	74	45	119	42	22	64
55 - 59	192	86	278	136	42	178	66	20	86
60 - 64	249	56	305	174	39	213	76	17	93
65 - 69	247	77	324	178	53	231	60	17	77
70 - 74	227	59	286	173	38	211	67	17	84
75 - 79	179	55	234	136	34	170	39	11	50
80 - 84	166	50	216	127	37	164	33	15	48
85 & over	239	76	315	188	53	241	50	10	60
<b>All age groups</b>	<b>1 957</b>	<b>946</b>	<b>2 903</b>	<b>1 406</b>	<b>615</b>	<b>2 021</b>	<b>528</b>	<b>256</b>	<b>784</b>

Notes:

(1) Pulmonary TB with or without extrapulmonary TB.

(2) Either smear or culture positive.

### III. Tuberculosis in Hong Kong

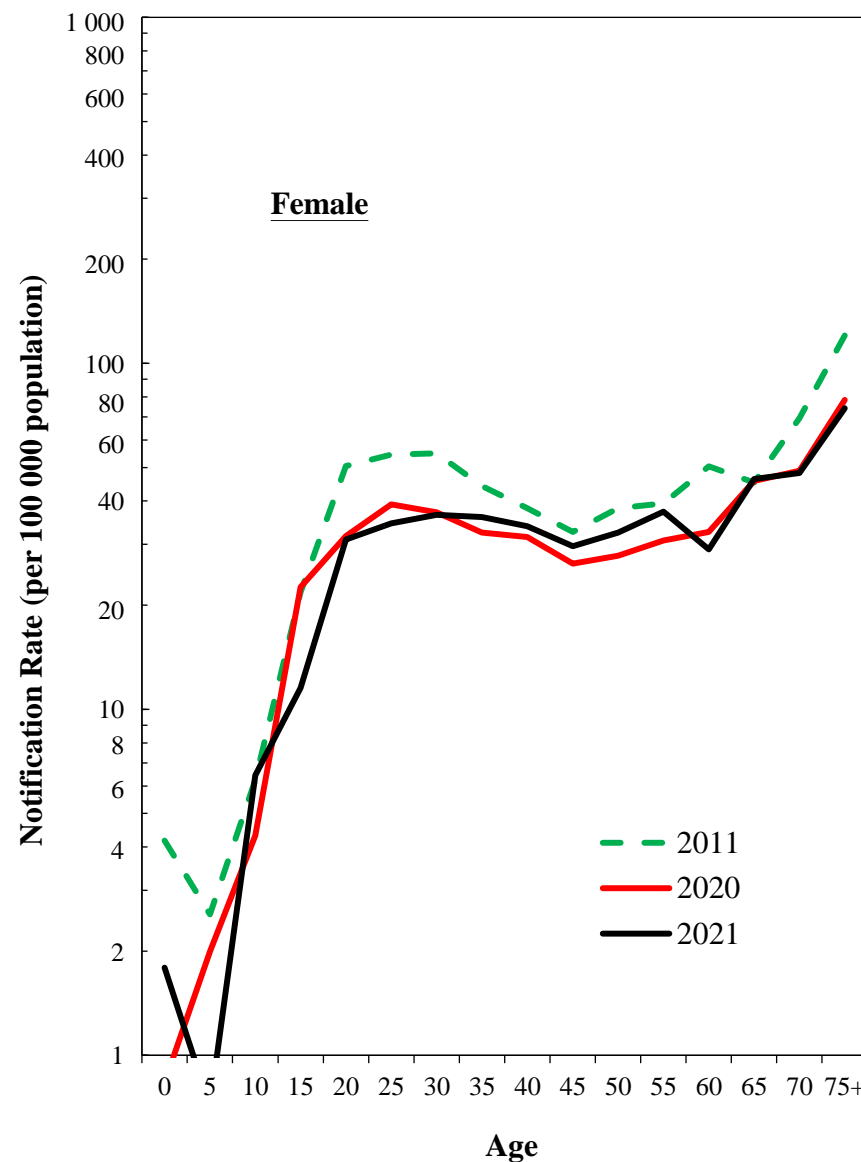
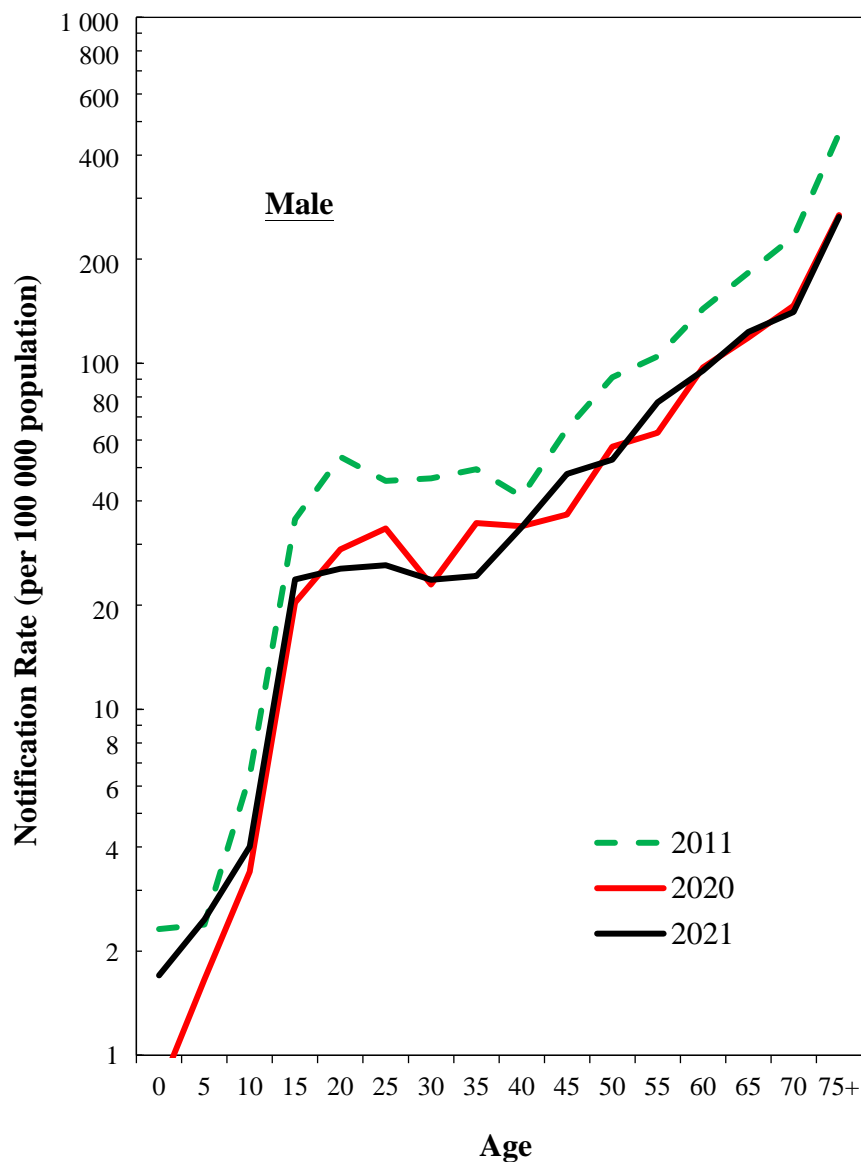
#### Appendix 4(c) Pulmonary Tuberculosis Notification Rate <sup>(1)</sup> by Sex and Age 2021

Age group	Pulmonary TB <sup>(2)</sup>			Bacteriologically <sup>(3)</sup> Positive Pulmonary TB			Smear Positive Pulmonary TB		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 - 4	0.9	1.8	1.3	0.0	0.0	0.0	0.0	0.0	0.0
5 - 9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 - 14	4.0	5.7	4.8	0.7	1.4	1.0	0.0	0.7	0.3
15 - 19	19.3	9.2	14.3	13.3	5.4	9.4	5.9	0.8	3.4
20 - 24	21.9	22.9	22.4	12.8	13.6	13.2	5.5	5.6	5.5
25 - 29	19.6	24.6	22.3	14.0	15.6	14.8	2.8	7.4	5.2
30 - 34	18.0	25.1	22.0	11.0	15.4	13.5	5.3	6.4	5.9
35 - 39	18.8	23.2	21.4	10.2	16.4	14.0	5.5	9.1	7.7
40 - 44	27.7	20.5	23.4	16.2	15.4	15.7	6.8	7.7	7.3
45 - 49	37.2	20.0	27.1	26.0	13.8	18.9	12.8	5.9	8.7
50 - 54	43.7	21.5	30.9	30.2	13.6	20.7	17.1	6.7	11.1
55 - 59	67.4	24.9	44.1	47.7	12.1	28.2	23.2	5.8	13.6
60 - 64	82.9	17.9	49.7	57.9	12.4	34.7	25.3	5.4	15.1
65 - 69	103.1	30.5	65.8	74.3	21.0	46.9	25.1	6.7	15.6
70 - 74	124.7	31.3	77.1	95.1	20.1	56.9	36.8	9.0	22.7
75 - 79	185.3	54.7	118.7	140.8	33.8	86.3	40.4	10.9	25.4
80 - 84	208.3	58.5	130.8	159.3	43.3	99.3	41.4	17.5	29.1
85 & over	282.8	53.6	139.3	222.5	37.4	106.5	59.2	7.1	26.5
<b>All age groups</b>	<b>57.9</b>	<b>23.5</b>	<b>39.2</b>	<b>41.6</b>	<b>15.3</b>	<b>27.3</b>	<b>15.6</b>	<b>6.4</b>	<b>10.6</b>

Notes:

- (1) Notification rate per 100 000 population.
- (2) Pulmonary TB with or without extrapulmonary TB.
- (3) Either smear or culture positive.

# Appendix 5 Tuberculosis Notification Rate by Sex and Age 2011, 2020 and 2021



### III. Tuberculosis in Hong Kong

#### Appendix 6 Notification of TB by TB Types, Sex and Age 2021 <sup>(1)</sup>

Age group	Pulmonary			Miliary			Meninges / CNS			Bones & Joints			Others <sup>(2)</sup>		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
5 - 9	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
10 - 14	6	7	13	0	1	1	0	0	0	0	1	1	0	0	0
15 - 19	25	11	36	0	0	0	1	0	1	1	0	1	5	4	9
20 - 24	31	28	59	1	1	2	0	2	2	1	2	3	9	18	27
25 - 29	35	45	80	0	1	1	3	0	3	2	1	3	16	38	54
30 - 34	33	60	93	0	0	0	1	1	2	0	0	0	20	48	68
35 - 39	34	74	108	0	1	1	1	2	3	3	3	6	19	48	67
40 - 44	49	58	107	0	3	3	2	0	2	2	2	4	26	56	82
45 - 49	74	59	133	1	1	2	2	2	4	3	3	6	36	36	72
50 - 54	93	54	147	2	0	2	2	1	3	2	7	9	32	46	78
55 - 59	167	72	239	2	1	3	2	0	2	5	2	7	46	54	100
60 - 64	210	47	257	3	1	4	0	1	1	3	2	5	70	41	111
65 - 69	209	66	275	2	2	4	2	1	3	4	3	7	79	45	124
70 - 74	202	54	256	4	1	5	2	3	5	5	2	7	43	31	74
75 - 79	153	47	200	3	0	3	0	0	0	5	1	6	56	20	76
80 - 84	146	38	184	1	2	3	1	0	1	2	3	5	47	22	69
85 & over	210	69	279	2	0	2	0	0	0	3	7	10	65	35	100
<b>All age groups</b>	<b>1 677</b>	<b>790</b>	<b>2 467</b>	<b>21</b>	<b>15</b>	<b>36</b>	<b>20</b>	<b>13</b>	<b>33</b>	<b>41</b>	<b>39</b>	<b>80</b>	<b>570</b>	<b>544</b>	<b>1 114</b>

Notes:

- (1) The total number of all age groups in this table add up to greater than the notification number of 3 716 as some cases may have multiple extrapulmonary sites.
- (2) Other types of TB include:
 

TB Laryngitis	28
TB Lymph node	374
TB Peritonitis, intestines, mesenteric, appendicitis	97
TB Pleuritis, pleural effusion	428
TB Skin	29
TB Urogenital system	56
Unspecified	102

### III. Tuberculosis in Hong Kong

#### Appendix 7 Tuberculosis (All Forms) Deaths and Rate by Sex and Age 2021

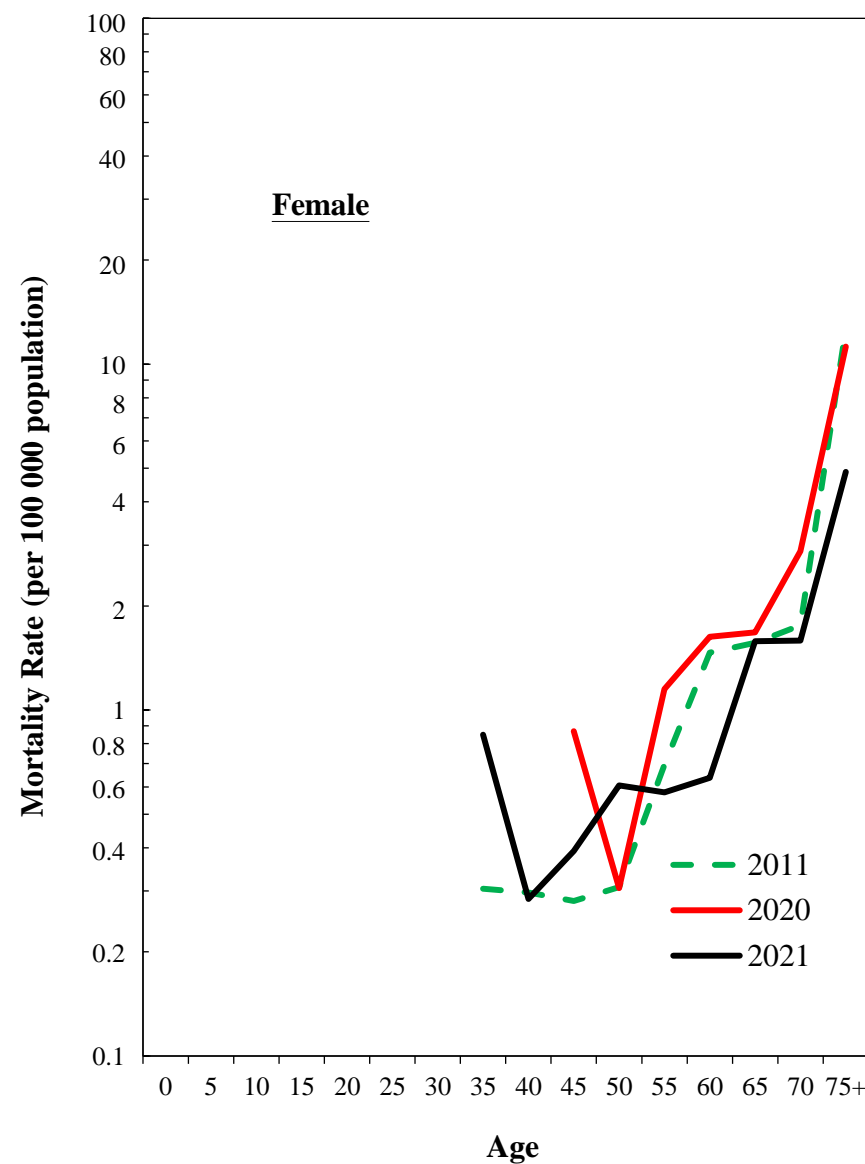
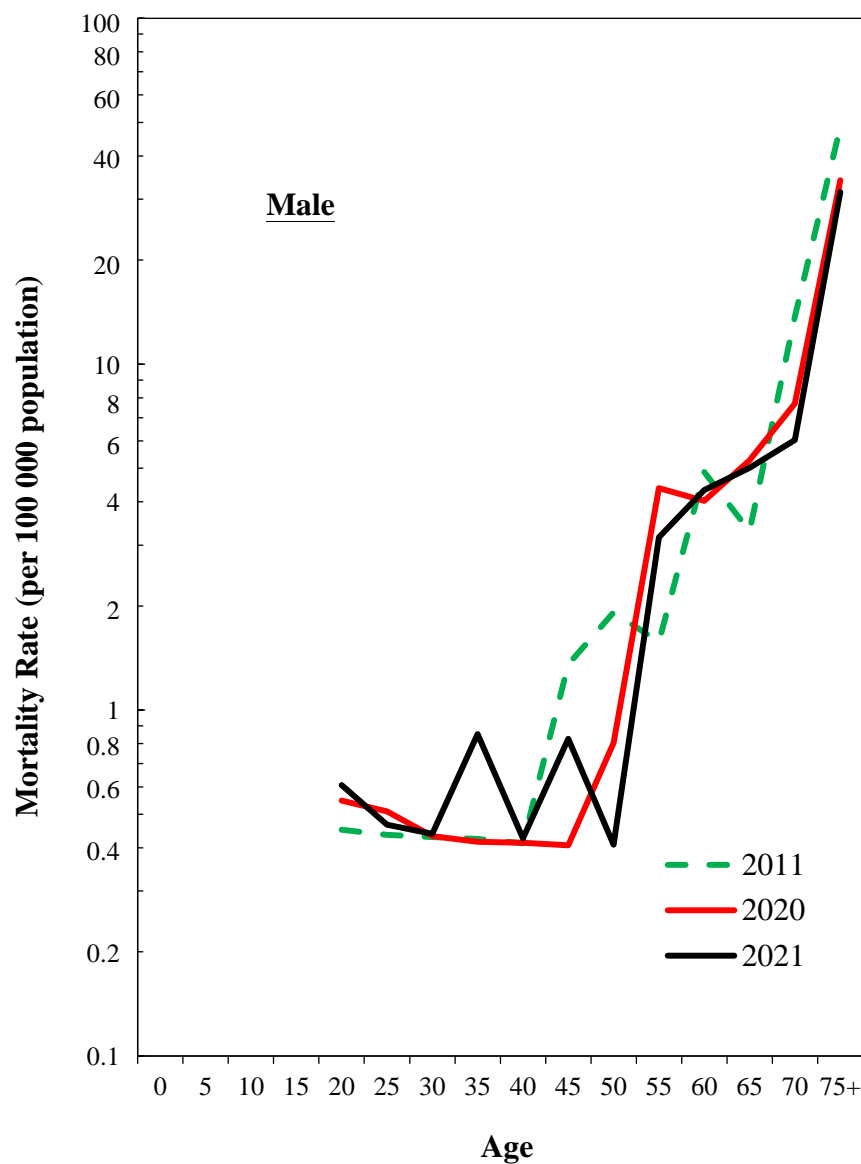
Age group	Tuberculosis (all forms) death <sup>(1)</sup>			Death rate <sup>(2)</sup>		
	Male	Female	Total	Male	Female	Total
Under 1	0	0	0	0.00	0.00	0.00
1	0	0	0			
2	0	0	0			
3	0	0	0			
4	0	0	0			
5 - 9	0	0	0	0.00	0.00	0.00
10 - 14	0	0	0	0.00	0.00	0.00
15 - 19	0	0	0	0.00	0.00	0.00
20 - 24	1	0	1	0.61	0.00	0.31
25 - 29	1	0	1	0.47	0.00	0.22
30 - 34	1	0	1	0.44	0.00	0.19
35 - 39	2	3	5	0.85	0.85	0.85
40 - 44	1	1	2	0.43	0.28	0.34
45 - 49	2	0	2	0.83	0.00	0.34
50 - 54	1	2	3	0.41	0.61	0.52
55 - 59	9	2	11	3.16	0.58	1.74
60 - 64	13	2	15	4.33	0.64	2.44
65 - 69	12	4	16	5.01	1.58	3.25
70 - 74	11	3	14	6.04	1.59	3.78
75 - 79	18	2	20	18.63	1.99	10.15
80 - 84	20	1	21	25.09	1.17	12.71
85 & over	44	13	57	52.07	9.17	25.20
<b>All age groups</b>	<b>136</b>	<b>33</b>	<b>169</b>	<b>4.02</b>	<b>0.82</b>	<b>2.28</b>

Notes:

(1) Data source: Death Registry, Department of Health.

(2) Death rate per 100 000 population.

# Appendix 8 Tuberculosis Mortality Rate by Sex and Age 2011, 2020 and 2021



### III. Tuberculosis in Hong Kong

#### Appendix 9 Tuberculosis Deaths by TB Types, Sex and Age 2021 <sup>(1)</sup>

Age group	Pulmonary			Miliary			Meninges			Bones & Joints			Others <sup>(2)</sup>		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 - 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 - 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 - 19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 - 24	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
25 - 29	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
30 - 34	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
35 - 39	2	2	4	0	0	0	0	1	1	0	0	0	0	0	0
40 - 44	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0
45 - 49	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
50 - 54	1	1	2	0	0	0	0	1	1	0	0	0	0	0	0
55 - 59	6	2	8	1	0	1	1	0	1	0	0	0	1	0	1
60 - 64	10	2	12	3	0	3	0	0	0	0	0	0	0	0	0
65 - 69	10	2	12	2	0	2	0	1	1	0	0	0	0	1	1
70 - 74	9	2	11	1	0	1	1	0	1	0	1	1	0	0	0
75 - 79	16	0	16	1	1	2	0	1	1	0	0	0	1	0	1
80 - 84	18	1	19	1	0	1	0	0	0	1	0	1	0	0	0
85 & over	42	11	53	2	1	3	0	0	0	0	1	1	0	0	0
<b>All age groups</b>	<b>117</b>	<b>23</b>	<b>140</b>	<b>13</b>	<b>3</b>	<b>16</b>	<b>3</b>	<b>4</b>	<b>7</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>3</b>

Notes:

(1) Data source: Death Registry, Department of Health.

(2) The number of deaths in other types of TB include:

Tuberculosis of intestines, peritoneum and mesenteric glands	Number
Tuberculosis of other specified organs	2
Total	1
	<hr/>
	3

### III. Tuberculosis in Hong Kong

#### Appendix 10 Tuberculosis Mortality from 1950 - 2021

Year	% of TB Death		Infant mortality rate <sup>(1)</sup> from TB	TB Deaths as % of Total Registered Deaths <sup>(2)</sup>	Average age of TB Death <sup>(2)</sup>
	Age under 5	Age under 1			
1950	38.34	9.81	5.3	17.7	24.0
1951	34.22	7.73	4.7	20.0	25.0
1952	34.28	7.05	3.5	18.4	25.0
1953	36.27	9.02	3.5	16.1	26.0
1954	31.26	8.17	2.8	14.9	29.0
1955	28.51	8.61	2.7	14.7	31.0
1956	25.22	7.34	2.0	13.6	32.0
1957	21.20	5.76	1.6	13.8	36.0
1958	19.64	7.04	1.5	11.2	36.5
1959	18.92	5.56	1.2	10.8	37.0
1960	10.55	2.21	0.4	10.9	43.0
1961	11.48	2.62	0.5	10.2	43.0
1962	5.74	1.44	0.2	9.3	46.0
1963	5.51	1.08	0.2	8.9	47.0
1964	4.09	0.90	0.1	8.0	48.0
1965	3.36	0.70	0.1	7.3	49.0
1966	2.71	0.73	0.1	8.1	53.0
1967	2.01	0.33	0.1	7.6	54.5
1968	1.15	0.20	0.0	7.7	56.5
1969	0.95	0.27	0.1	7.8	56.0
1970	0.63	0.00	0.0	6.9	57.5
1971	0.64	0.08	0.0	6.2	57.5
1972	0.30	0.15	0.0	6.2	59.0
1973	0.35	0.09	0.0	5.4	58.0
1974	0.82	0.21	0.0	4.4	58.5
1975	1.39	0.31	0.0	3.0	58.5
1976	0.70	0.00	0.0	2.4	59.5
1977	0.38	0.00	0.0	2.3	61.0
1978	0.48	0.24	0.0	1.8	61.0
1979	0.96	0.19	0.0	2.0	61.0
1980	0.73	0.18	0.0	2.1	62.0
1981	0.41	0.00	0.0	2.0	63.0
1982	0.22	0.00	0.0	1.8	63.0
1983	0.45	0.00	0.0	1.7	63.0
1984	0.24	0.24	0.0	1.6	64.5
1985	0.00	0.00	0.0	1.6	65.5
1986	0.00	0.00	0.0	1.6	68.0
1987	0.00	0.00	0.0	1.5	68.5
1988	0.52	0.26	0.0	1.4	69.0
1989	0.25	0.25	0.0	1.4	69.0
1990	0.52	0.52	0.0	1.3	69.0
1991	0.00	0.00	0.0	1.4	69.0
1992	0.00	0.00	0.0	1.3	68.0
1993	0.25	0.25	0.0	1.3	69.0
1994	0.00	0.00	0.0	1.4	71.0
1995	0.00	0.00	0.0	1.4	71.1
1996	0.00	0.00	0.0	0.9	70.6
1997	0.00	0.00	0.0	0.8	72.1
1998	0.37	0.00	0.0	0.8	72.6

### III. Tuberculosis in Hong Kong

#### Appendix 10 Tuberculosis Mortality from 1950 - 2021 ---cont'd

Year	% of TB Death		Infant mortality rate <sup>(1)</sup> from TB	TB Deaths as % of Total Registered Deaths <sup>(2)</sup>	Average age of TB Death <sup>(2)</sup>
	Age under 5	Age under 1			
1999	0.00	0.00	0.0	0.9	72.9
2000	0.00	0.00	0.0	0.9	73.4
2001	0.00	0.00	0.0	0.9	74.3
2002	0.00	0.00	0.0	0.8	74.0
2003	0.36	0.00	0.0	0.8	72.3
2004	0.00	0.00	0.0	0.8	73.4
2005	0.00	0.00	0.0	0.7	74.3
2006	0.00	0.00	0.0	0.8	73.5
2007	0.00	0.00	0.0	0.6	74.2
2008	0.00	0.00	0.0	0.6	74.5
2009	0.00	0.00	0.0	0.5	73.7
2010	0.00	0.00	0.0	0.4	73.1
2011	0.00	0.00	0.0	0.4	77.3 <sup>(3)</sup>
2012	0.00	0.00	0.0	0.5	75.9
2013	0.00	0.00	0.0	0.4	74.1
2014	0.00	0.00	0.0	0.4	76.0
2015	0.00	0.00	0.0	0.4	75.6
2016	0.00	0.00	0.0	0.3	77.2
2017	0.00	0.00	0.0	0.4	75.4
2018	0.53	0.53	0.0	0.4	74.6
2019	0.00	0.00	0.0	0.4	77.0
2020	0.00	0.00	0.0	0.4	76.8
2021	0.00	0.00	0.0	0.3	74.7

Notes:

- (1) Infant mortality rate per 1 000 Registered Live Births.
- (2) Data source: Death Registry, Department of Health.
- (3) The average age of TB death is calculated by the exact age of TB death from 2011 onwards. Figures may be slightly different from previous years which were compiled basing on the age groups of TB death.

#### Appendix 11 Top Ten Causes of Death in Hong Kong 2021

Rank	Causes of Death	Detailed list no. ICD 10 <sup>th</sup> Revision <sup>^</sup>	Number of Deaths		
			Male	Female	Total
	All Causes		28 365	23 171	51 536
1	Malignant neoplasms	C00-C97	8 754	6 354	15 108
2	Pneumonia	J12-J18	5 446	4 386	9 832
3	Diseases of heart	I00-I09, I11, I13, I20-I51	3 676	2 919	6 595
4	Cerebrovascular diseases	I60-I69	1 646	1 480	3 126
5	External causes of morbidity and mortality <sup>@</sup>	V01-Y89	1 278	705	1 983
6	Nephritis, nephrotic syndrome and nephrosis	N00-N07, N17-N19, N25-N27	844	937	1 781
7	Dementia	F01-F03	540	958	1 498
8	Septicaemia	A40-A41	619	630	1 249
9	Chronic lower respiratory diseases <sup>*</sup>	J40-J47	813	246	1 059
10	Diabetes mellitus	E10-E14	306	242	548
	Tuberculosis (including late effects of tuberculosis)		136	33	169
	All other causes	Residues of all causes	4 443	4 314	8 757

Notes:

<sup>^</sup> Classification of diseases and causes of death is based on the International Statistical Classification of Diseases and Related Health Problems (ICD) 10th Revision from 2001 onwards. The disease groups for the purpose of ranking causes of death have also been redefined based on the ICD 10th Revision, and new disease groups have been added. Figures for 2001 may not be comparable with figures for previous years which were compiled based on the ICD 9th Revision.

<sup>@</sup> According to the ICD 10th Revision, when the morbid condition is classifiable under Chapter XIX as "injury, poisoning and certain other consequences of external causes", the codes under Chapter XX for "external causes of morbidity and mortality" should be used as the primary cause.

<sup>\*</sup> Chronic lower respiratory diseases has been included as a disease group for the purpose of ranking the causes of death since 2001.

### III. Tuberculosis in Hong Kong

#### Appendix 12(a) Sources of Tuberculosis Notification from 2011 - 2021

Clinic / Hospital	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
East Kowloon Chest Clinic	105	101	83	83	105	83	83	83	76	49	60
Kowloon Chest Clinic	122	154	167	127	95	98	98	94	65	74	60
Sai Ying Pun Chest Clinic	71	89	79	70	69	59	61	72	40	47	43
Shauiwan Chest Clinic	74	65	74	66	72	56	45	67	42	37	33
Shauiwan Pneumoconiosis	9	10	2	9	0	5	7	2	0	0	0
Shek Kip Mei Chest Clinic	90	101	95	80	89	83	70	66	44	38	32
South Kwai Chung Chest Clinic	146	158	122	127	103	98	99	106	69	79	70
Tai Po Chest Clinic	86	82	93	64	54	63	60	44	35	31	30
Wanchai Chest Clinic	118	110	113	95	89	83	88	71	56	47	53
Yan Oi Chest Clinic	173	144	146	104	105	109	100	75	84	69	70
Yaumatei Chest Clinic	128	132	112	101	92	82	81	91	72	54	42
Yuen Chau Kok Chest Clinic	112	108	110	98	80	80	81	73	75	55	67
Yung Fung Shee Chest Clinic	112	116	86	92	87	75	73	66	46	60	55
Castle Peak Hospital (Chest Clinic) <sup>(1)</sup>	0	2	0	0	0	-	-	-	-	-	-
Cheung Chau Chest Clinic	1	1	0	0	0	2	1	0	0	0	0
Sai Kung Chest Clinic	6	4	4	2	3	1	2	1	6	1	0
Sheung Shui Chest Clinic	33	21	30	33	22	30	29	31	18	18	13
Tung Chung Chest Clinic	13	9	11	11	9	21	12	17	19	6	7
Yuen Long Chest Clinic	48	39	66	51	67	53	59	48	36	34	35
Sub-total	1 447	1 446	1 393	1 213	1 141	1 081	1 049	1 007	783	699	670
Grantham Hospital	163	138	148	140	166	148	128	113	109	113	88
Haven of Hope Hospital	80	68	77	95	96	86	68	69	66	52	57
Kowloon Hospital	92	97	64	74	105	111	111	108	104	104	91
Ruttonjee Hospital	176	165	127	140	109	122	117	113	123	101	77
Wong Tai Sin Hospital	57	58	86	69	62	47	49	63	39	27	39
Other Govt. Institutions <sup>(2)</sup>	62	54	51	61	49	53	58	80	70	70	97
Other H.A. Hospitals	2 364	2 497	2 377	2 578	2 370	2 343	2 309	2 357	2 319	2 200	2 246
Private Practitioners	100	109	118	129	122	146	141	139	173	131	153
Private Hospitals	253	226	223	206	198	209	220	219	217	159	198
Total	4 794	4 858	4 664	4 705	4 418	4 346	4 250	4 268	4 003	3 656	3 716
% of cases from Chest Clinics among the total	30.2	29.8	29.9	25.8	25.8	24.9	24.7	23.6	19.6	19.1	18.0
% from Chest Hospitals <sup>(3)</sup>	11.8	10.8	10.8	11.0	12.2	11.8	11.1	10.9	11.0	10.9	9.5
% from Other Govt. Institutions & H.A. Hospital	50.6	52.5	52.1	56.1	54.8	55.1	55.7	57.1	59.7	62.1	63.1
% from Private Sector	7.4	6.9	7.3	7.1	7.2	8.2	8.5	8.4	9.7	7.9	9.4

Notes:

- (1) Castle Peak Hospital (Chest Clinic) ceased operation from 1 April 2015.
- (2) Data sources are from Outpatient Clinics, Public Mortuaries and Prison Hospitals.
- (3) Chest Hospitals include Kowloon Hospital, Wong Tai Sin Hospital, Ruttonjee Hospital, Grantham Hospital and Haven of Hope Hospital.

### III. Tuberculosis in Hong Kong

#### Appendix 12(b) Breakdown of Tuberculosis Notification from H.A. Hospitals 2021

Name of Hospital	Number of TB Notification
Alice Ho Miu Ling Nethersole Hospital	81
Caritas Medical Centre	128
Castle Peak Hospital	0
Hong Kong Buddhist Hospital	1
Hong Kong Children's Hospital	1
Kwong Wah Hospital	158
North District Hospital	92
North Lantau Hospital	13
Our Lady of Maryknoll Hospital	14
Pamela Youde Nethersole Eastern Hospital	163
Pok Oi Hospital	133
Prince of Wales Hospital	195
Princess Margaret Hospital	206
Queen Elizabeth Hospital	239
Queen Mary Hospital	115
Shatin Hospital	2
St. John Hospital	1
Tai Po Hospital	4
Tin Shui Wai Hospital	23
Tseung Kwan O Hospital	111
Tuen Mun Hospital	207
Tung Wah Eastern Hospital	1
Tung Wah Group of Hospitals - Fung Yiu King Hospital	1
Tung Wah Hospital	5
United Christian Hospital	242
Wong Chuk Hang Hospital	0
Yan Chai Hospital	110
<b>Total</b>	<b>2 246</b>

Last update on 27.05.2024

### III. Tuberculosis in Hong Kong

#### Appendix 13 Tuberculosis Notification and Notification Rate by District Council Districts 2021

District Council Districts <sup>(1)</sup>	Notification	Notification Rate <sup>(2)</sup>
<b><u>Hong Kong Island</u></b>	<b>584</b>	<b>48.85</b>
Central & Western	131	55.51
Wanchai	73	43.79
Eastern	245	46.26
Southern	135	51.27
<b><u>Kowloon</u></b>	<b>1 343</b>	<b>60.16</b>
Kowloon City	196	47.74
Kwun Tong	414	61.50
Sham Shui Po	264	61.24
Wong Tai Sin	256	62.93
Yau Tsim Mong	213	68.58
<b><u>NT (East)</u></b>	<b>842</b>	<b>42.24</b>
Islands	69	37.24
North	142	45.87
Sai Kung/Tseung Kwan O	194	39.67
Shatin	315	45.47
Tai Po	122	38.55
<b><u>NT (West)</u></b>	<b>943</b>	<b>47.37</b>
Kwai Tsing	269	54.26
Tsuen Wan	118	36.86
Tuen Mun	230	45.37
Yuen Long	326	48.80
<b>Unknown</b>	<b>4</b>	<b>-</b>
<b>All Districts</b>	<b>3 716</b>	<b>50.13</b>

Notes:

(1) Population source: Census and Statistics Department.

(2) Notification rate per 100 000 population.

### III. Tuberculosis in Hong Kong

#### Appendix 14 Establishment and Strength of Tuberculosis and Chest Service <sup>(1)</sup>

Post	Establishment	Strength
Consultant Chest Physician i/c	1	1
Consultant Chest Physician	1	0
Senior Medical & Health Officer	7	7
Medical & Health Officer	23	18
Senior Nursing Officer	1	0
Nursing Officer	15	12
Registered Nurse	75	71
Enrolled Nurse	74	68
Senior Dispenser	9	9
Dispenser	9	9
Executive Officer I	1	1
Executive Officer II	1	0
Statistical Officer II	3	3
Personal Secretary I	1	0
Clerical Officer	16	15
Assistant Clerical Officer	20	19
Clerical Assistant	56	55
Office Assistant	8	4
Workman II	43	43
Senior Radiographer	3	3
Radiographer I	9	7
Radiographer II	23	26
Radiographic Technician	2	1
Darkroom Technician (DT)	10	2

Note:

(1) Establishment and Strength as at 1.12.2021

# Appendix 15 Total Attendance at Chest Clinics from 2011 - 2021

Clinic/Hospital	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
East Kowloon Chest Clinic	55 678	49 894	51 368	52 449	52 874	54 391	53 160	51 934	44 511	29 457	38 235
Kowloon Chest Clinic	47 693	50 666	52 766	52 423	45 953	45 938	46 887	41 671	39 824	27 042	32 512
Sai Ying Pun Chest Clinic	36 441	36 877	33 892	33 274	36 301	36 622	32 200	33 069	32 981	22 060	24 494
Shaukiwan Chest Clinic	41 804	40 600	42 335	44 417	45 789	42 426	37 176	41 212	36 847	22 732	28 912
Shaukiwan Pneumoconiosis	6 869	6 576	6 137	5 433	4 920	4 806	4 840	4 620	4 415	3 766	3 625
Shek Kip Mei Chest Clinic	49 500	47 853	49 164	51 852	48 142	47 816	47 374	42 544	35 852	26 910	33 024
South Kwai Chung Chest Clinic	75 752	78 785	75 062	73 740	78 403	73 985	67 149	65 577	64 475	47 908	57 156
Tai Po Chest Clinic	37 628	39 318	41 316	32 443	30 988	33 357	32 126	31 641	28 758	17 824	29 430
Wanchai Chest Clinic	48 893	46 777	47 901	49 276	43 900	45 326	42 857	39 552	33 359	24 457	33 697
Yan Oi Chest Clinic	63 333	67 804	64 184	60 278	60 770	61 780	64 016	67 621	67 664	44 535	53 510
Yaumatei Chest Clinic	68 164	62 688	61 905	60 937	57 835	58 938	55 234	50 246	52 632	37 475	51 400
Yuen Chau Kok Chest Clinic	65 627	59 542	67 573	60 396	51 136	56 538	63 228	58 485	53 972	40 180	48 115
Yung Fung Shee Chest Clinic	73 038	74 204	75 140	67 274	65 603	73 857	72 019	70 214	64 832	48 578	57 327
Castle Peak Hospital	145	146	124	126	38	-	-	-	-	-	-
(ceased operation from 1 April 2015)											
Cheung Chau Chest Clinic	1 286	1 349	1 356	1 273	1 562	1 139	1 781	1 415	1 317	1 046	944
Sai Kung Chest Clinic	1 861	1 546	1 542	1 371	1 513	1 385	1 248	1 383	1 304	1 255	932
Sheung Shui Chest Clinic	21 775	17 495	15 308	16 827	15 361	14 113	15 539	13 506	12 853	11 488	10 235
Tung Chung *	4 447	4 248	4 303	4 091	4 166	5 554	5 484	4 467	5 247	2 609	3 647
Yuen Long Chest Clinic *	30 201	27 413	29 929	27 377	26 361	26 427	26 369	26 911	26 097	18 243	18 456
Hei Ling Chau ATC	202	190	240	162	127	117	130	121	82	43	41
Lai Chi Kok Reception Centre	330	365	279	250	278	234	245	242	192	113	48
Shek Pik Prison Hospital	94	140	192	184	199	189	159	152	113	110	72
Stanley Prison Hospital	688	529	488	443	360	367	282	234	208	138	118
<b>Total</b>	<b>731 449</b>	<b>715 005</b>	<b>722 504</b>	<b>696 296</b>	<b>672 579</b>	<b>685 305</b>	<b>669 503</b>	<b>646 817</b>	<b>607 535</b>	<b>427 969</b>	<b>525 930</b>

Note

\* Revised figures for 2020.

### III. Tuberculosis in Hong Kong

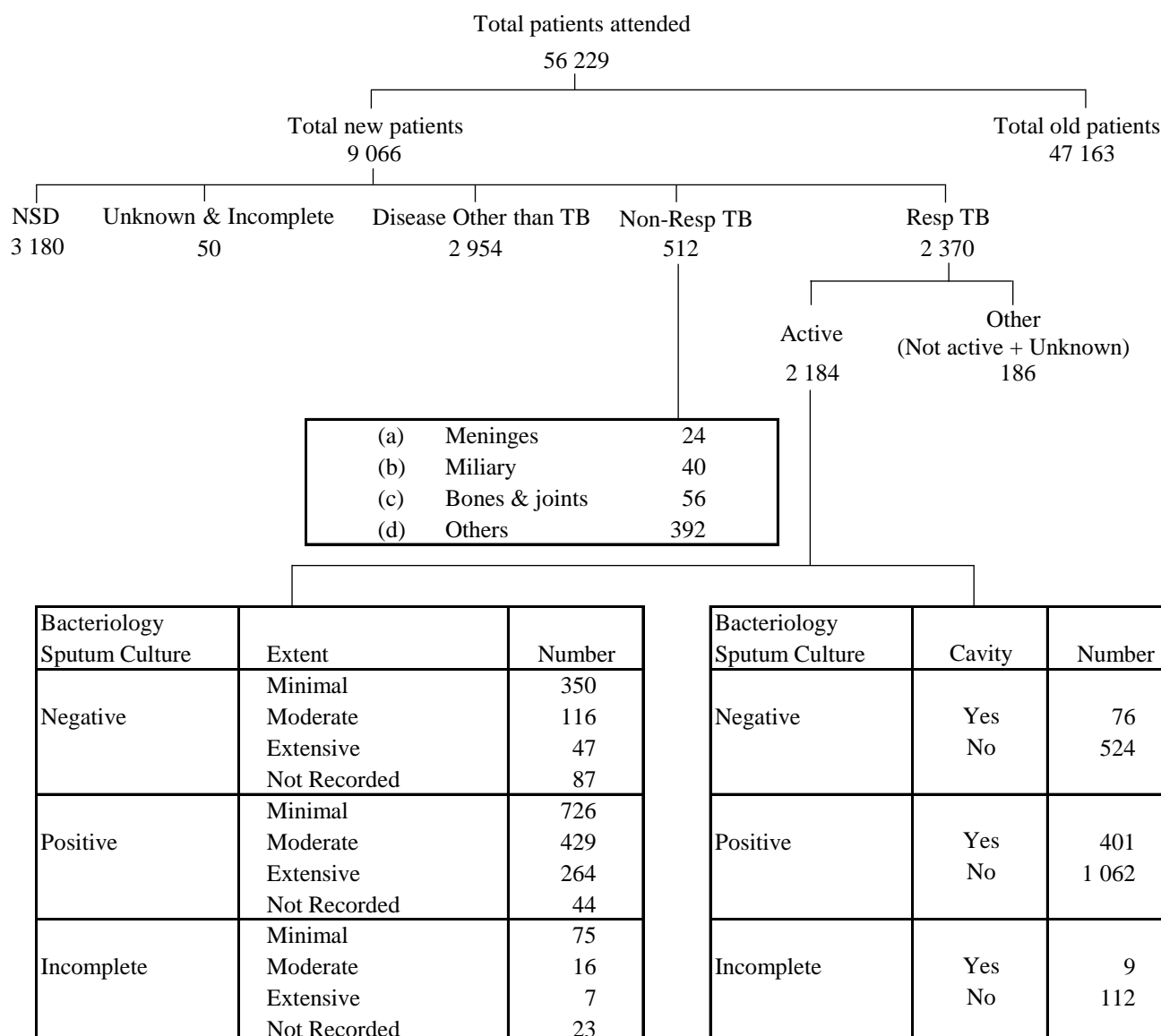
#### Appendix 16 Number of Doctor Sessions, Cases Seen by Doctor and Patient/Doctor Session 2021

Clinic/Hospital	Doctor Sessions <sup>(1)</sup>	Cases Seen by Doctor	Patient/Doctor Session
<b><u>Full Time Clinics</u></b>			
East Kowloon	501	9 021	18
Kowloon	463	7 902	17
Sai Ying Pun	494	6 607	13
Shaukeiwan	508	6 816	13
Pneumoconiosis	351	3 625	10
Shek Kip Mei	610	5 284	9
South Kwai Chung	886	13 884	16
Tai Po	495	4 783	10
Wanchai	494	7 128	14
Yan Oi	853	14 234	17
Yaumatei	529	8 789	17
Yuen Chau Kok	615	11 579	19
Yung Fung Shee	641	11 218	18
<b>Sub-total</b>	<b>7 440</b>	<b>110 870</b>	<b>15</b>
<b><u>Part Time Clinics</u></b>			
Cheung Chau	24	148	6
Sai Kung	51	485	10
Sheung Shui	292	3 058	10
Tung Chung	152	1 083	7
Yuen Long	392	5 112	13
<b>Sub-total</b>	<b>911</b>	<b>9 886</b>	<b>11</b>
<b><u>Institutions Correctional Services Department</u></b>			
Hei Ling Chau	12	41	3
Lai Chi Kok Reception Center	26	48	2
Shek Pik	12	72	6
Stanley Prison	26	118	5
<b>Sub-total</b>	<b>76</b>	<b>279</b>	<b>4</b>
<b>All Clinic/Hospital</b>	<b>8 427</b>	<b>121 035</b>	<b>14</b>

Note:

(1) Doctor Sessions: One doctor for a half-day session.

## Appendix 17 Diagnosis and Characteristics of Patients Attending Chest Clinics 2021



A total of 56 229 patients attended, comprising 47 163 old cases and 9 066 new cases. Among new cases, 2 370 had respiratory TB with 2 184 being active, 512 had non-respiratory TB, 2 954 had diseases other than TB, 50 had unknown and incomplete diagnoses, and 3 180 had NSD (no specific diagnosis). Of the 512 new cases with non-respiratory TB, 24 had TB affecting meninges, 40 had miliary TB, 56 had TB affecting bones and joints, and 392 had TB affecting other sites.

### III. Tuberculosis in Hong Kong

#### Appendix 18(a) Classification of Diseases of First Attenders in 2021 according to International Classification of Diseases Code

Code		Classification	Number of Patients
ICD 9	ICD 10		
010	A15.7, A16.7	Primary Tuberculosis Infection	3
011	A15.0-15.3, A16.0-16.2, J65	Pulmonary Tuberculosis	1 965
012	A15.4-15.6, A15.8-15.9, A16.3-16.5, A16.8-16.9	Other Respiratory Tuberculosis	216
013	A17.0-17.1, A17.8, A17.9	Tuberculosis of Nervous System	24
014	A18.3	Tuberculosis of Intestines	76
015	A18.0, M49.0	Tuberculosis of Bones & Joints	56
016	A18.1	Tuberculosis of Genito-urinary System	29
017	A18.2, A18.4-18.8	Tuberculosis of Other Organs	287
018	A19.0-19.2, A19.8-19.9	Miliary Tuberculosis	40
137	B90.0-90.2, B90.8-90.9	Late effects of Tuberculosis	186
V74.1, 795.5, V07.3	Z11.1, Z11.7, Z22.7, Z29.2, Z86.15, R76.1	Special Screening Examination for Respiratory Tuberculosis, Testing for Latent Tuberculosis Infection, Chemoprophylaxis	2 826
158, 163, 164, 501, 502, 505	C45.0-C45.2, C45.7, C45.9, J61, J62, J62.0, J62.8, J64	Pneumoconiosis / Silicosis / Asbestosis / Mesothelioma	52
160-165, 197	C30-39, C34.0-34.3, C34.8-34.9, C78.0, C78.2	Malignant Neoplasm of Respiratory System	75
212	D14.0-14.4	Benign Neoplasm of Respiratory System	0
031	A31.0-A31.1, A31.8-A31.9	Infection due to other mycobacterium	55
460-466	J00-06, J02.0, J02.8-02.9, J03.0, J03.9, J04.0-04.2, J05.0-05.1, J06.0-06.9	Acute Respiratory Infection	65
470-478	J30-39, J30.0-30.4, J39.8-39.9	Other Diseases of Upper Resp Tract	4
480-486	J12-18, J12.9, J15.0-15.2, J15.5-15.9, J16-18.9, J22, J69.0	Pneumonia	152
487	J09, J10.0-10.1, J10.8, J11.0-11.1, J11.8	Influenza	4
490-491	J40, J41.0-41.1, J41.8, J42	Bronchitis, (not specified as acute or chronic) & chronic bronchitis	116
492	J43, J43.0-43.2, J43.8-43.9	Emphysema	4
493	J45, J45.0-45.1, J45.8-45.9, J46	Asthma	9
494	J47	Bronchiectasis	101
495-496	J44, J44.0-44.1, J44.8-44.9	Chronic obstructive pulmonary disease	17
510, 511	J86, J90	Pyothorax (Empyema), Pleurisy	21
512	J93, J93.0-93.1, J93.8-93.9	Pneumothorax	2
503, 513-519	J63, J95, J96, J98, J99, M05.1, M31.3, M32.1, M33.0-M33.2, M34.8	Other Diseases of Respiratory System	2
786	R04-09	Miscellaneous conditions	651
V71	Z00.0, Z01.6, Z02, Z02.1-02.2, Z02.6-02.9, Z71.1	N.S.D.	385
		Diseases Other than TB & Resp System not classified above	1 643
Total			9 066

NB:

Above is a crude mapping of some of the codings in ICD9 to ICD10 as a reference only. Such mapping may result in misclassification of some cases.

#### Appendix 18(b) Characteristics of Active Respiratory Tuberculosis in First Attenders at Chest Clinics from 2019 - 2021

Extent of diseases on Chest X-ray <sup>#</sup>	2019		2020		2021	
	Number	%	Number	%	Number	%
1. Minimal	1 132	50.8	1 040	49.9	1 151	52.7
2. Moderate	570	25.6	534	25.6	561	25.7
3. Extensive	324	14.5	325	15.6	318	14.6
4. Not Recorded	201	9.0	186	8.9	154	7.1
Total	2 227	100.0	2 085	100.0	2 184	100.0
Number of first attenders	13 272		8 679		9 066	
Percentage of active respiratory TB	16.8		24.0		24.1	

Notes:

- #
1. Minimal : Less than right upper lobe
  2. Moderate : More than right upper lobe
  3. Extensive : More than a lung

Sputum Result in 2021	Number	%
Smear +	571	26.1
Smear - Culture +	879	40.3
Smear - Culture -	583	26.7
Incomplete	151	6.9
Total	2 184	100.0

# Appendix 19(a1) Rate of Drug-resistant Tuberculosis

Among cases registered during the period January to December 2021 (Data from PHLC)

Age Group	Category @	% monoresistance to				% resistance to *			MDR-TB %	Total % resistance #	Total no. of cases analysed
		E	R	H	S	1 drug	2 drugs	≥ 3 drugs			
0 - 19	New cases	0.00	0.00	2.38	2.38	4.76	7.14	4.76	7.14	16.67	42
	Previously treated cases	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	Overall	0.00	0.00	2.38	2.38	4.76	7.14	4.76	7.14	16.67	42
20 - 39	New cases	0.00	0.52	2.61	5.74	8.88	2.87	0.26	0.52	12.01	383
	Previously treated cases	0.00	0.00	0.00	14.29	14.29	0.00	14.29	14.29	28.57	7
	Overall	0.00	0.51	2.56	5.90	8.97	2.82	0.51	0.77	12.31	390
40 - 59	New cases	0.16	0.32	2.69	4.74	7.90	1.74	0.32	0.63	9.95	633
	Previously treated cases	0.00	0.00	3.23	6.45	9.68	3.23	6.45	6.45	19.35	31
	Overall	0.15	0.30	2.71	4.82	7.98	1.81	0.60	0.90	10.39	664
60 up	New cases	0.07	0.07	2.05	5.02	7.20	2.78	0.40	0.40	10.38	1 513
	Previously treated cases	0.00	0.86	2.59	5.17	8.62	2.59	0.00	0.00	11.21	116
	Overall	0.06	0.12	2.09	5.03	7.31	2.76	0.37	0.37	10.44	1 629
All	New cases	0.08	0.19	2.29	5.02	7.58	2.61	0.43	0.58	10.62	2 571
	Previously treated cases	0.00	0.65	2.60	5.84	9.09	2.60	1.95	1.95	13.64	154
	Overall	0.07	0.22	2.31	5.06	7.67	2.61	0.51	0.66	10.79	2 725

Notes:

E = ethambutol; R = rifampicin; H = isoniazid; S = streptomycin

\* % resistant to one, two or more than two of the four drugs E, R, H and S

# Total % resistance: resistant to at least one of the four drugs E, R, H and S

@ New cases: for cases with no / unknown past history of anti-tuberculosis treatment

Previously treated cases: for cases with past history of anti-tuberculosis treatment

Overall: for all cases

NB:

The figures are based on phenotypic testing results only.

### III. Tuberculosis in Hong Kong

#### Appendix 19(a2) Rate of Drug-resistant Tuberculosis

Among cases with date of starting treatment during the period

January to December 2021

	New case		Previously treated cases		Combined	
	N	%	N	%	N	%
Total Number of strains tested	2 571	100	154	100	2 725	100
Susceptible to all 4 drugs	2 298	89.38	133	86.36	2 431	89.21
Any resistance	273	10.62	21	13.64	294	10.79
H	137	5.33	11	7.14	148	5.43
R	20	0.78	4	2.60	24	0.88
E	12	0.47	0	0.00	12	0.44
S	194	7.55	16	10.39	210	7.71
Mono-resistance	195	7.58	14	9.09	209	7.67
H	59	2.29	4	2.60	63	2.31
R	5	0.19	1	0.65	6	0.22
E	2	0.08	0	0.00	2	0.07
S	129	5.02	9	5.84	138	5.06
Multidrug resistance	15	0.58	3	1.95	18	0.66
H+R	5	0.19	0	0.00	5	0.18
H+R+E	4	0.16	0	0.00	4	0.15
H+R+S	5	0.19	3	1.95	8	0.29
H+R+E+S	1	0.04	0	0.00	1	0.04
Other patterns	63	2.45	4	2.60	67	2.46
H+E	4	0.16	0	0.00	4	0.15
H+S	58	2.26	4	2.60	62	2.28
H+E+S	1	0.04	0	0.00	1	0.04
R+E	0	0.00	0	0.00	0	0.00
R+S	0	0.00	0	0.00	0	0.00
R+E+S	0	0.00	0	0.00	0	0.00
E+S	0	0.00	0	0.00	0	0.00
Number of drugs resistant to:						
0 drug	2 298	89.38	133	86.36	2 431	89.21
1 drug	195	7.58	14	9.09	209	7.67
2 drugs	67	2.61	4	2.60	71	2.61
3 drugs	10	0.39	3	1.95	13	0.48
4 drugs	1	0.04	0	0.00	1	0.04

# Appendix 19(b1) Trend of anti-TB drug resistance from 2002 to 2021 <sup>(1)</sup>

## New case

(Percentage)	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Ethambutol	0.65	0.42	0.34	0.54	0.35	0.12	0.45	0.26	0.25	0.33	0.70	0.54	0.65	0.54	0.50	0.73	0.52	0.44	0.52	0.47
Rifampicin	0.46	0.69	0.75	0.83	0.86	0.46	0.64	0.90	0.78	0.88	0.95	1.03	0.85	0.92	0.78	0.89	1.12	0.70	0.60	0.78
Isoniazid	4.71	4.64	3.65	4.16	4.13	3.79	4.33	4.19	4.86	4.18	4.66	4.39	5.33	4.90	5.80	6.17	5.20	5.23	5.12	5.33
Streptomycin	7.40	7.59	6.90	6.72	6.00	7.47	6.89	8.04	7.61	7.32	9.48	8.22	9.36	9.30	8.91	9.11	8.03	7.71	7.41	7.55
MDR-TB	0.34	0.46	0.48	0.51	0.55	0.31	0.30	0.67	0.70	0.63	0.74	0.70	0.68	0.54	0.50	0.63	0.73	0.63	0.48	0.58
Total % resistance	10.22	10.54	8.84	9.33	8.64	9.32	9.41	10.59	9.88	10.08	11.67	10.72	12.47	11.98	11.43	12.28	11.03	10.46	10.37	10.62

## Previously treated cases

(Percentage)	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Ethambutol	2.04	2.19	2.14	3.92	1.61	0.90	2.65	0.47	2.56	0.00	1.70	0.99	4.73	2.50	2.27	1.69	1.42	1.68	0.57	0.00
Rifampicin	4.59	3.41	4.29	3.64	2.90	2.10	3.53	1.73	4.47	2.84	4.08	2.22	5.09	3.13	4.17	3.37	4.25	2.23	1.14	2.60
Isoniazid	9.69	9.00	10.46	8.68	10.00	9.31	10.00	6.45	9.58	6.38	10.54	6.17	12.73	13.75	12.88	9.55	12.74	15.64	6.25	7.14
Streptomycin	10.97	9.25	11.26	10.08	9.35	11.11	9.12	8.49	13.42	10.28	13.95	10.62	13.09	15.63	13.64	12.92	9.91	15.64	6.82	10.39
MDR-TB	3.57	2.92	3.75	2.52	2.90	2.10	2.94	1.57	4.15	2.13	3.74	1.98	4.00	3.13	3.41	3.37	4.25	2.23	0.57	1.95
Total % resistance	16.58	14.11	16.35	14.29	13.55	15.32	15.59	12.26	17.25	12.06	18.71	13.58	20.73	21.25	19.32	15.73	16.98	22.91	11.93	13.64

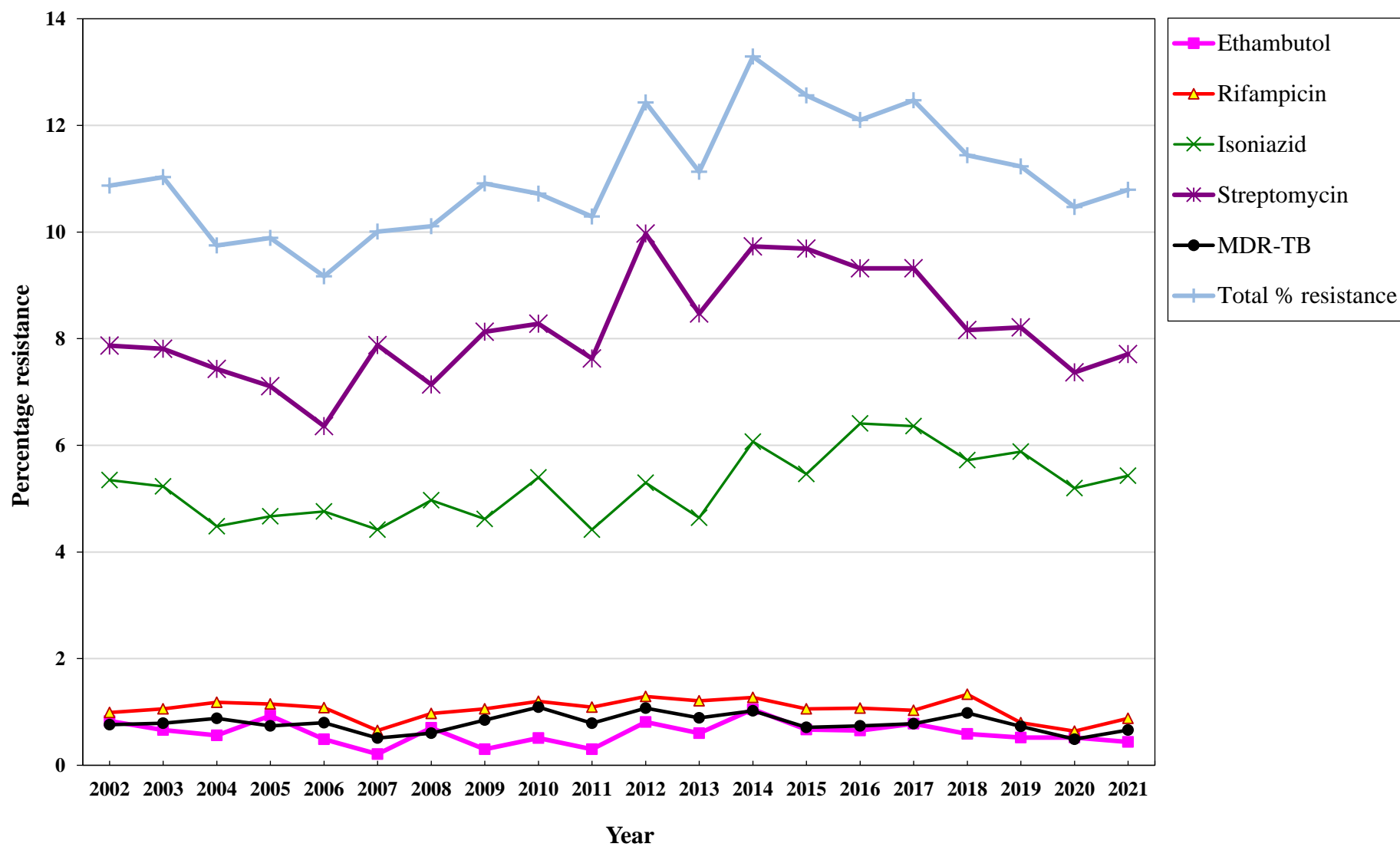
## Overall

(Percentage)	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Ethambutol	0.83	0.66	0.56	0.93	0.49	0.21	0.70	0.30	0.51	0.30	0.81	0.60	1.05	0.67	0.65	0.78	0.59	0.52	0.52	0.44
Rifampicin	0.99	1.06	1.18	1.15	1.08	0.65	0.97	1.06	1.20	1.09	1.29	1.21	1.27	1.06	1.07	1.03	1.33	0.80	0.64	0.88
Isoniazid	5.35	5.23	4.48	4.67	4.76	4.42	4.97	4.62	5.40	4.42	5.30	4.64	6.07	5.46	6.41	6.36	5.72	5.88	5.20	5.43
Streptomycin	7.87	7.81	7.43	7.11	6.36	7.88	7.14	8.13	8.28	7.63	9.97	8.47	9.73	9.69	9.32	9.32	8.16	8.21	7.37	7.71
MDR-TB	0.76	0.79	0.88	0.74	0.80	0.51	0.60	0.85	1.09	0.79	1.07	0.89	1.02	0.71	0.74	0.78	0.98	0.73	0.49	0.66
Total % resistance	10.87	11.03	9.75	9.89	9.17	10.01	10.11	10.91	10.72	10.29	12.43	11.13	13.29	12.56	12.10	12.47	11.44	11.23	10.47	10.79

Note:

(1) 2002 - 2015: Data from Programme Record Forms; 2016 - 2021: Data from Public Health Laboratory Centre

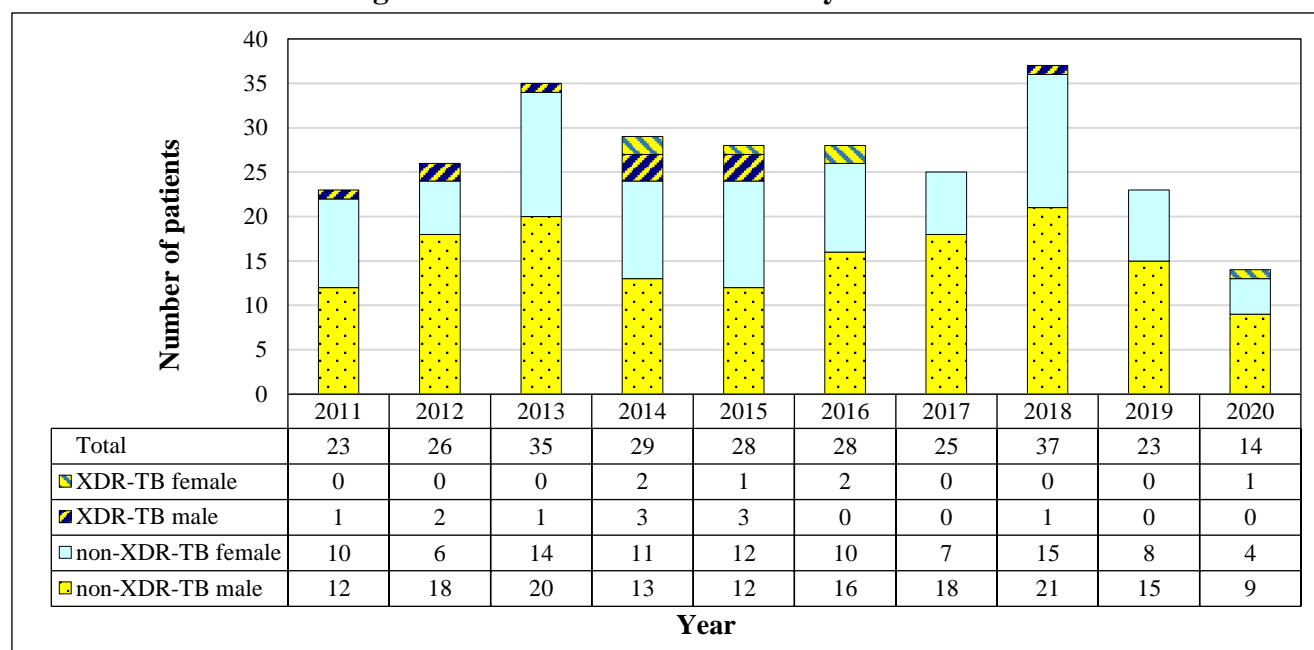
Appendix 19(b2) Trend of Overall anti-TB drug-resistance from 2002 - 2021



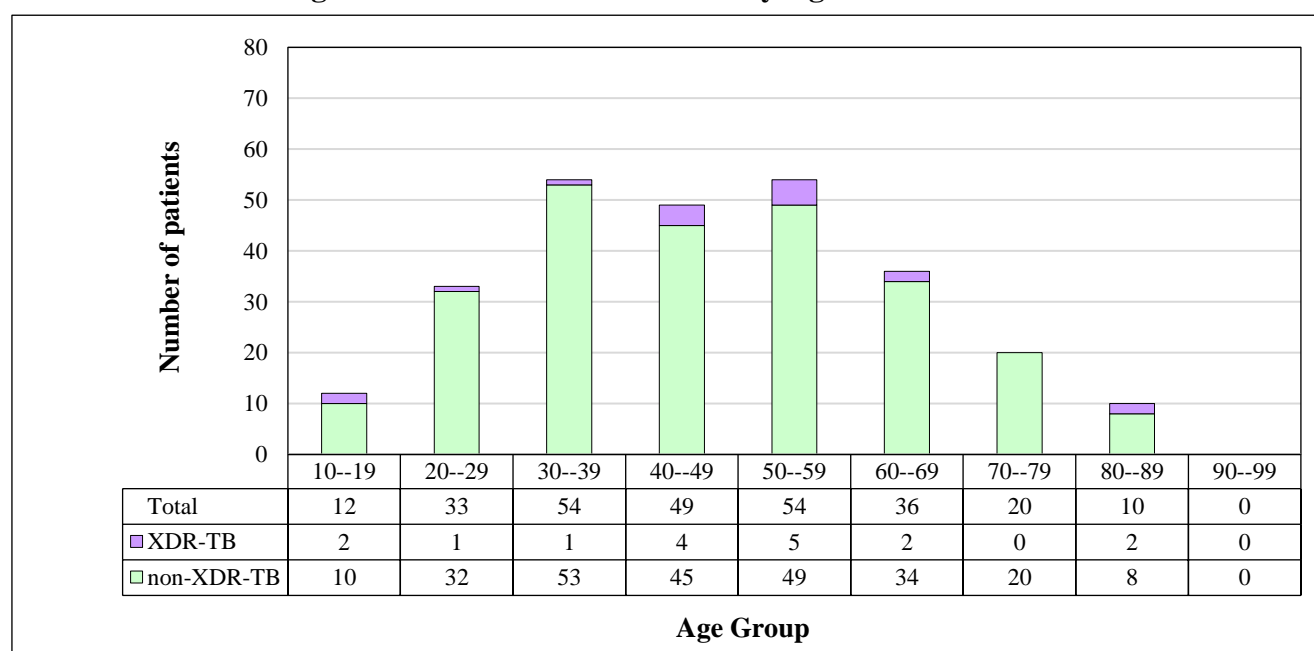
#### Appendix 19(c) MDR-TB and XDR-TB from 2011 to 2020

Cases of MDR-TB and XDR-TB are identified from four main sources: (1) Programme forms; (2) MDR-TB registry; (3) Prison registry; (4) TB Reference Laboratory. The year to which the case belongs is defined as the year of starting treatment with second-line anti-TB drugs, or if treatment has not been started (e.g., patients died, or no effective second-line drugs are available for treatment), it is defined as the year of reporting MDR-TB. Since 2014, MDR-TB cases have been counted according to the year of TB notification.

**Figure 1: MDR-TB and XDR-TB by Sex and Year**



**Figure 2: MDR-TB and XDR-TB by Age from 2011 to 2020**



Definitions: MDR-TB = multidrug-resistant tuberculosis [resistant to at least isoniazid and rifampicin]  
 XDR-TB = extensively drug-resistant tuberculosis [resistant to any fluoroquinolone, and at least one of the three injectable second-line drugs (capreomycin, kanamycin, and amikacin), in addition to MDR-TB]  
 non-XDR-TB = MDR-TB excluding XDR-TB cases.

### III. Tuberculosis in Hong Kong

#### Appendix 19(d) Revised Definition of Extensively Drug-resistant Tuberculosis since 2021 <sup>(1)</sup>

WHO proposed a new definition for pre-XDR-TB and the revised definition for XDR-TB from 2021 onwards. For reporting purposes, MDR-TB and RR-TB are often grouped together as MDR/RR-TB. This includes patients with isolates that are resistant to rifampicin only and those that fulfil the definition of MDR-TB.

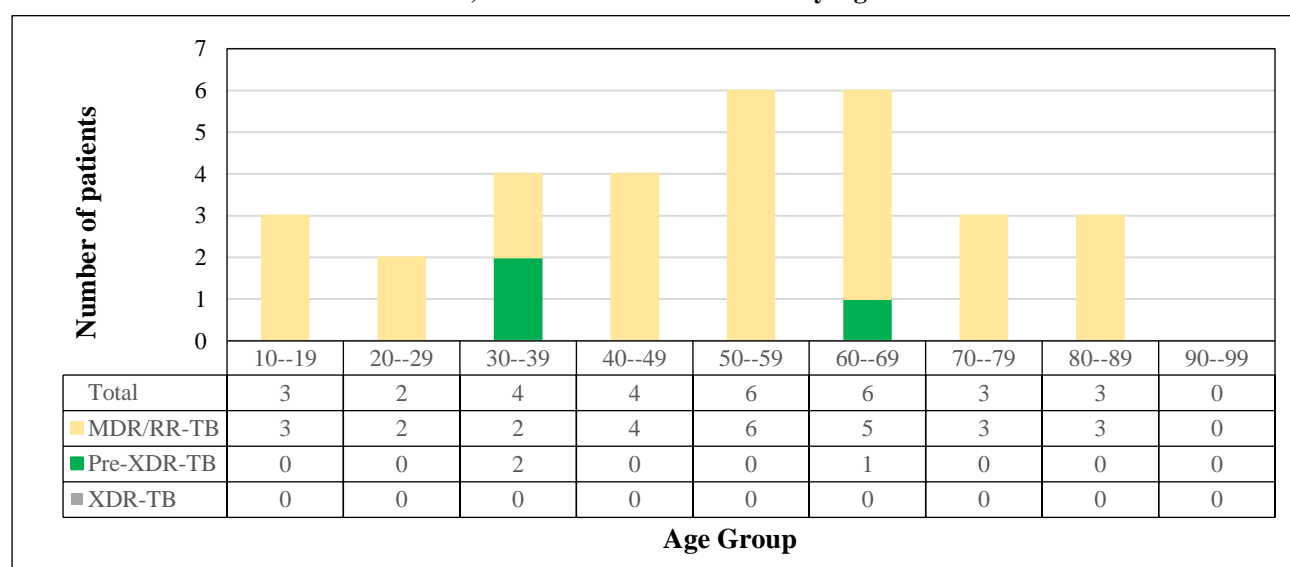
##### Definition of pre-XDR-TB and updated definition of XDR-TB

**Pre-XDR-TB:** TB caused by *Mycobacterium tuberculosis* strains that fulfill the definition of MDR/RR-TB and that are also resistant to any fluoroquinolone <sup>(2)</sup>.

**XDR-TB:** TB caused by *Mycobacterium tuberculosis* strains that fulfill the definition of MDR/RR-TB and that are also resistant to any fluoroquinolone <sup>(2)</sup> and at least one additional Group A drug <sup>(3)</sup>.

Year	MDR/RR-TB		Pre-XDR-TB		XDR-TB		Total
	Female	Male	Female	Male	Female	Male	
2021	9	19	1	2	0	0	31

MDR/RR-TB, Pre-XDR-TB and XDR-TB by Age since 2021



Notes:

- (1) Reference: Meeting report of the WHO expert consultation on the definition of extensively drug-resistant tuberculosis 27-29 October 2020.
- (2) The fluoroquinolones include levofloxacin and moxifloxacin.
- (3) Group A drugs are currently levofloxacin or moxifloxacin, bedaquiline and linezolid; therefore, XDR-TB is MDR/RR-TB that is resistant to a fluoroquinolone and either bedaquiline or linezolid (or both). The Group A drugs may change in the future.

# Appendix 20(a) Treatment Return 2021 – Service Regimen

Clinic/Hospital	No. put on Rx b/f	Brought in					Treatment completed					Transfer out to		Interrup Rx temp	Died	Drop out				Complete defaulter				No. still on Rx c/f	Unsup Rx	Incomp super. Rx	No. def >2M <3M
		1	2	3	4	5	<6M	at 6M	>6M	NTM	%	hosp.	other cc			Rx by GP	Leave HK	Def. >1x	AMA	<2M	>2M <3M	>3M	%				
		A	B	C	D	E	F	G	H	I	J	K	L			M	N	O	P	Q	R	S	T				
<b>Full Time Clinics</b>																											
East Kowloon	120	97	2	4	105	39	3	36	130	1	86.0	34	10	1	19	0	2	0	1	0	0	4	2.1	126	3	42	5
Kowloon	151	99	9	6	74	17	2	16	150	1	86.5	8	12	1	9	2	9	0	0	0	1	4	2.6	141	0	31	0
Sai Ying Pun	44	63	5	2	69	26	4	14	101	1	83.3	18	16	0	7	1	10	2	3	0	0	1	0.7	31	0	21	0
Shaukeiwan	98	53	5	4	58	17	3	24	93	0	90.0	12	6	0	3	0	6	0	3	0	0	1	0.8	84	0	71	2
Shek Kip Mei	128	70	5	3	98	21	6	18	129	1	85.0	12	19	0	12	0	2	1	3	1	2	5	4.6	114	0	41	4
South Kwai Chung	155	151	2	6	137	31	17	34	204	3	84.7	18	5	0	23	0	13	0	1	0	3	0	1.1	161	0	23	1
Tai Po	94	45	0	8	51	12	6	22	81	0	87.3	1	12	0	3	0	5	4	1	0	0	6	5.1	69	0	3	0
Wanchai	77	83	1	5	62	21	3	19	89	0	87.1	5	8	0	3	2	10	0	0	0	0	1	0.8	109	0	19	0
Yan Oi	189	116	3	6	112	21	5	22	188	2	91.3	16	3	0	9	0	4	0	2	0	0	3	1.3	193	12	60	0
Yaumatei	184	100	9	6	93	24	8	11	162	3	80.5	1	17	0	16	2	15	2	0	0	0	6	2.8	173	0	0	0
Yuen Chau Kok	169	130	3	3	116	21	4	27	166	2	92.3	28	10	2	5	0	6	2	1	0	0	2	1.0	187	0	23	0
Yung Fung Shee	152	144	1	7	143	44	4	39	219	1	91.5	34	6	0	11	0	7	0	1	0	0	4	1.4	165	0	61	0
Sub-total	1 561	1 151	45	60	1 118	294	65	282	1 712	15	87.3	187	124	4	120	7	89	11	16	1	6	37	1.9	1 553	15	395	12
<b>Part Time Clinics</b>																											
Cheung Chau	4	0	0	0	0	4	0	1	4	0	100.0	1	0	0	0	0	0	0	0	0	0	0	0.0	2	0	1	0
Sai Kung	5	5	0	1	9	0	0	1	6	0	100.0	1	3	0	0	0	0	0	0	0	0	0	0.0	9	0	7	0
Sheung Shui	60	43	2	0	48	14	2	12	57	2	83.1	7	7	0	6	0	5	0	1	0	0	0	0.0	68	0	62	0
Tung Chung	16	21	0	0	13	2	1	7	13	0	83.3	1	0	0	1	0	3	0	0	0	0	0	0.0	26	0	24	0
Yuen Long	96	83	0	2	86	18	0	26	103	0	87.2	11	5	0	7	1	6	0	1	0	2	2	2.7	121	0	152	0
Sub-total	181	152	2	3	156	38	3	47	183	2	86.1	21	15	0	14	1	14	0	2	0	2	2	1.5	226	0	246	0
<b>Institutions Correctional Services Department</b>																											
Hei Ling Chau	1	0	9	0	0	0	1	0	1	0	50.0	0	5	1	0	0	1	0	0	0	0	0	0.0	1	0	0	0
Shek Pik Prison	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0
Stanley Prison	2	3	0	0	0	0	0	2	0	0	100.0	0	0	2	0	0	0	0	0	0	0	0	0.0	1	0	0	0
Sub-total	3	3	9	0	0	0	1	2	1	0	75.0	0	5	3	0	0	1	0	0	0	0	0	0.0	2	0	0	0
Total	1 745	1 306	56	63	1 274	332	69	331	1 896	17	87.1	208	144	7	134	8	104	11	18	1	8	39	1.9	1 781	15	641	12

# Appendix 20(b) Treatment Return 2021 – Other Regimens

Clinic/Hospital	No. put on Rx b/f	Brought in					Treatment completed					Transfer out to		Interrup Rx temp	Died	Drop out				Complete defaulter				No. still on Rx c/f	Unsup Rx	Incomp super. Rx	No. def >2M <3M
		1	2	3	4	5	<6M	at 6M	>6M	NTM	%	hosp.	other cc			Rx by GP	Leave HK	Def. >1x	AMA	<2M	>2M <3M	>3M	%				
	A	B	C	D	E	F	G	H	I	J		K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
<b>Full Time Clinics</b>																											
East Kowloon	49	20	1	3	18	5	2	0	26	0	83.9	4	1	0	4	0	0	0	0	0	0	1	3.2	58	4	22	0
Kowloon	22	14	2	2	17	4	0	2	19	2	80.8	4	3	1	0	1	1	1	1	0	0	0	0.0	26	0	7	0
Sai Ying Pun	69	1	2	2	39	3	1	0	20	0	71.4	4	2	0	8	0	0	0	0	0	0	0	0.0	81	0	20	0
Shaukeiwan	37	14	0	2	26	4	1	1	32	0	82.5	2	2	0	7	0	0	0	0	0	0	0	0.0	38	0	35	0
Shek Kip Mei	22	4	1	1	8	0	1	0	15	0	83.3	0	1	0	2	0	0	0	1	0	0	0	0.0	16	0	1	0
South Kwai Chung	79	21	0	0	21	4	0	1	34	1	76.1	2	0	0	8	0	1	0	0	0	1	0	2.2	77	0	1	0
Tai Po	10	5	0	2	7	2	0	0	4	1	57.1	0	1	0	0	0	0	0	1	0	0	1	14.3	18	0	0	0
Wanchai	25	3	0	3	12	5	0	0	12	1	70.6	2	1	1	3	0	0	0	1	0	0	0	0.0	27	0	4	0
Yan Oi	40	2	0	1	39	9	0	0	29	1	78.4	2	2	0	5	0	0	0	0	0	0	2	5.4	50	6	16	0
Yaumatei	23	4	3	2	11	6	0	1	15	0	72.7	0	1	0	3	0	0	1	0	0	0	3	13.6	25	0	0	0
Yuen Chau Kok	20	9	1	0	23	0	0	1	19	1	64.5	0	2	0	10	0	0	2	0	0	0	0	0.0	18	0	10	0
Yung Fung Shee	88	10	1	4	14	5	0	0	22	0	91.7	5	1	0	2	0	0	0	0	0	0	0	0.0	92	0	5	0
Sub-total	484	107	11	22	235	47	5	6	247	7	77.4	25	17	2	52	1	2	4	4	0	1	7	2.4	526	10	121	0
<b>Part Time Clinics</b>																											
Cheung Chau	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0
Sai Kung	0	0	0	0	1	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0.0	1	0	1	0
Sheung Shui	9	2	1	1	7	0	0	1	13	0	93.3	0	0	0	1	0	0	0	0	0	0	0	0.0	5	0	8	0
Tung Chung	3	0	0	1	4	0	0	1	3	0	100.0	0	0	0	0	0	0	0	0	0	0	0	0.0	4	0	2	0
Yuen Long	11	3	0	1	15	1	0	1	11	0	75.0	1	3	0	2	0	0	1	0	0	1	1	12.5	10	0	16	0
Sub-total	23	5	1	3	27	1	0	3	27	0	85.7	1	3	0	3	0	0	1	0	0	1	1	5.7	20	0	27	0
<b>Institutions Correctional Services Department</b>																											
Hei Ling Chau	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0
Shek Pik Prison	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0
Stanley Prison	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0
Sub-total	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0
Total	507	112	12	25	262	48	5	9	274	7	78.2	26	20	2	55	1	2	5	4	0	2	8	2.8	546	10	148	0

[illegible]

Service regimen	Upon starting treatment, the regimen contains any combination of drugs including H (isoniazid), R (rifampicin), Z (pyrazinamide), E (ethambutol), and S (streptomycin).
Other regimens	Upon starting treatment, the regimen contains second-line drugs apart from H, R, Z, E or S.
Item B	New cases with treatment started in chest clinics.
Item C	Retreatment cases, with treatment newly started. Previous treatment either not completed, or even if claimed to be completed, without documentation in the available clinic record.
Item D	Relapse cases, with treatment newly started. Previous treatment is completed with documentation in the available clinic record.
Item E	Treatment cases transferred in from hospitals, private doctors, etc. without treatment started previously at any chest clinics for this episode of tuberculosis.
Item F	Other transferred in treatment cases, with treatment given previously in any chest clinics for this episode of tuberculosis.

#### Explanatory Notes for Appendix 20 – Treatment Return --- *cont'd*

- Appendix 20 (a): Service regimen: For treatment cases who, upon starting anti-TB drugs, were given any combination of drugs including H (isoniazid), R (rifampicin), Z (pyrazinamide), E (ethambutol), and S (streptomycin).
- Appendix 20 (b): Other regimens: For treatment cases who, upon starting anti-TB drugs, were given also second line drugs apart from H, R, Z, E or S.

#### Number put on treatment b/f:

- (A) No. put on Rx b/f: Total number of treatment cases c/f from last month's balance.

#### Brought in:

Items (B), (C), (D) & (E) will be using a new treatment number, while item (F) will be using the same previous treatment number, as follows:

- (B) (1) Newly started treatment in your chest clinic.
- (C) (2) Retreatment cases, with treatment newly started, including:
- Cases previously classified under items (O), (P), (Q), (R), (S), (T) or (U) in the most recent episode of treatment, with treatment restarted now after treatment has been interrupted for over 2 months;
  - Cases claiming to have anti-TB treatment completed previously in chest clinic or chest hospital, but the clinic record is not available, e.g., because it has been destroyed;
  - Cases claiming to have anti-TB treatment completed previously from sources other than chest clinic or chest hospital.
- (D) (3) Relapse case:
- Cases having treatment completed previously (even if this is completed less than 2 months ago) in either chest clinic or chest hospital as indicated in the clinic record which is still available, e.g., cases classified under items (H) or (I) in the most recent episode.
- (E) (4) Transfer in from hospitals, general practitioners (GPs), or prison:
- Cases previously unknown to any one chest clinic for this episode of treatment.
- (F) (5) Cases using the same previous treatment number:
- Cases previously known to chest clinic for this episode of treatment, and now being transferred in from other chest clinics, hospitals, GPs, or prison, e.g., cases previously classified under items (K) or (L);
  - Cases previously classified under items (O), (P), (Q), (R), or (S) in the most recent episode of treatment, with treatment restarted now after treatment has been interrupted for less than 2 months;
  - Cases previously classified under item (M), and resuming treatment now.

#### Treatment completed:

- (G) <6m: Treatment stopped permanently by doctor prematurely, e.g., revised diagnosis.
- (H) at 6m: Treatment stopped permanently by doctor at or within 2 weeks of 6 month from DOS.
- (I) > 6m: Treatment stopped permanently by doctor at 7 month or more.
- (J) NTM = Non-tuberculous mycobacteria cases

Column following (J):  $\% = (H + I) / (A + B + C + D + E + F - G - K - L - M - Q - W)$

### III. Tuberculosis in Hong Kong

---

#### Transfer out to:

- (K) hosp: Admission to hospital.  
(L) other cc: Transfer out to other chest clinics.

#### Interrup. Rx temp.:

- (M) Treatment interrupted by doctor temporarily, e.g., due to side effects of drug such as impaired LFT.

#### Died:

- (N) Treatment cases who died.

#### Drop out:

- (O) Rx by GP: Changed to be treated by GP.  
(P) Leave HK: Treatment cases known to be going back to Philippines, China, or other countries for good as stated in the clinic record (whether AMA has been signed or not).  
(Q) Def. > 1x: Defaulted treatment and NFA in conference with MO for more than one time.  
(R) AMA: Treatment cases who have signed AMA, excluding those who are to be classified under items (O) or (P).

#### Complete defaulter:

- (S) < 2m: Defaulted treatment for less than 2 months, and NFA in conference with MO for the first time.  
(T) > 2m, < 3m: Defaulted treatment for more than 2 months but less than 3 months, and NFA in conference with MO for the first time.  
(U) > 3m: Defaulted treatment for more than 3 months, and NFA in conference with MO for the first time.  
(V) % =  $(S + T + U) / (A + B + C + D + E + F - G - K - L - M - Q - W)$

#### No. still on Rx c/f:

- (W) Number of treatment cases in hand at the end of the month =  
 $(A + B + C + D + E + F) - (G + H + I + K + L + M + N + O + P + Q + R + S + T + U)$

#### Unsup. Rx:

- (X) Treatment cases with all anti-TB drugs supplied (not even taken one dose at chest clinic) and unsupervised. Count under this item if this happens within the first 2 months of treatment.

#### Incomp. Super. Rx:

- (Y) Treatment incompletely supervised, including:  
- Treatment supervised by non-clinic staff, e.g., CNS, old aged home staff, staff in prison.  
- Drug supplied to patient or relatives.  
Count under this item if this happens within the first 2 months of treatment.

#### No. def. >2m, <3m:

- (Z) Number of defaulters who have defaulted treatment for more than 2 months but less than 3 months, but not yet NFA in conference with MO. (NB: No case being counted under this item in the last month will be counted again under this item for the subsequent months.)  
This item needs to be counted only on the last working day of the month when completing the monthly treatment return.

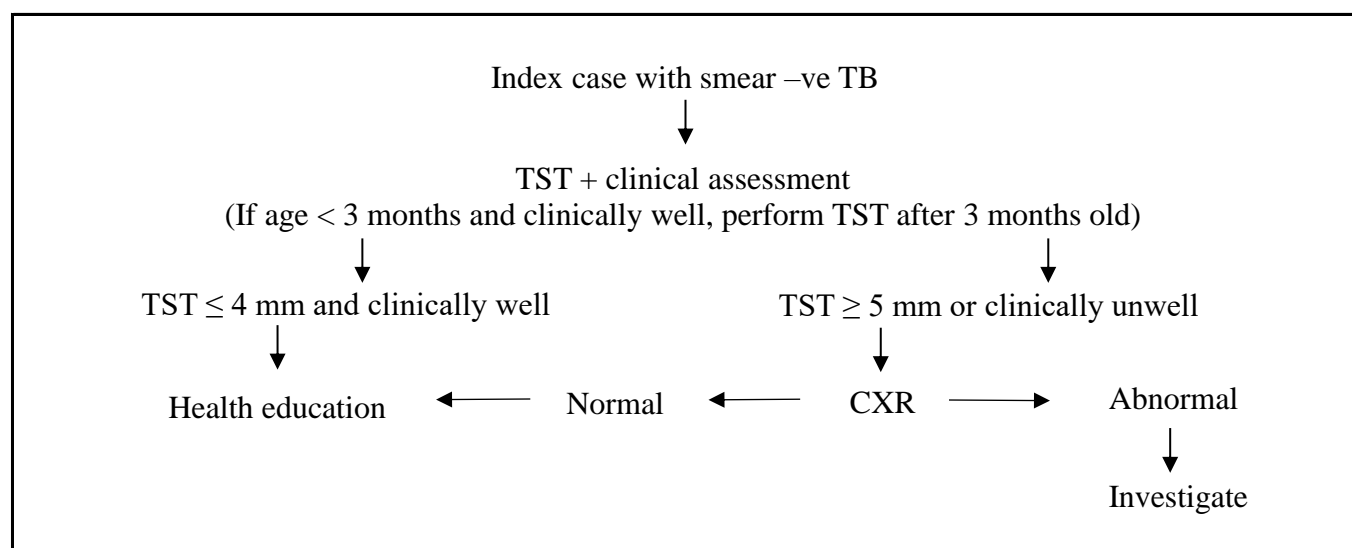
### III. Tuberculosis in Hong Kong

#### Appendix 21(a) Scheme for Investigation of Close Contacts (Household) in the Tuberculosis & Chest Service, Department of Health (Last updated Jul 2018)

Scenario	Strategy
Index case is smear-negative and the close contact < 5 years old	Tuberculin skin test, with chest X-ray if the test reads 5 mm or more
Index case is smear-negative and the close contact aged 5 years or more	Chest X-ray
Index case is smear-positive and the close contact < 65 years old *	Chest X-ray and tuberculin skin test, with treatment of latent TB infection if appropriate
Index case is smear-positive and the close contact aged 65 years or more	Chest X-ray

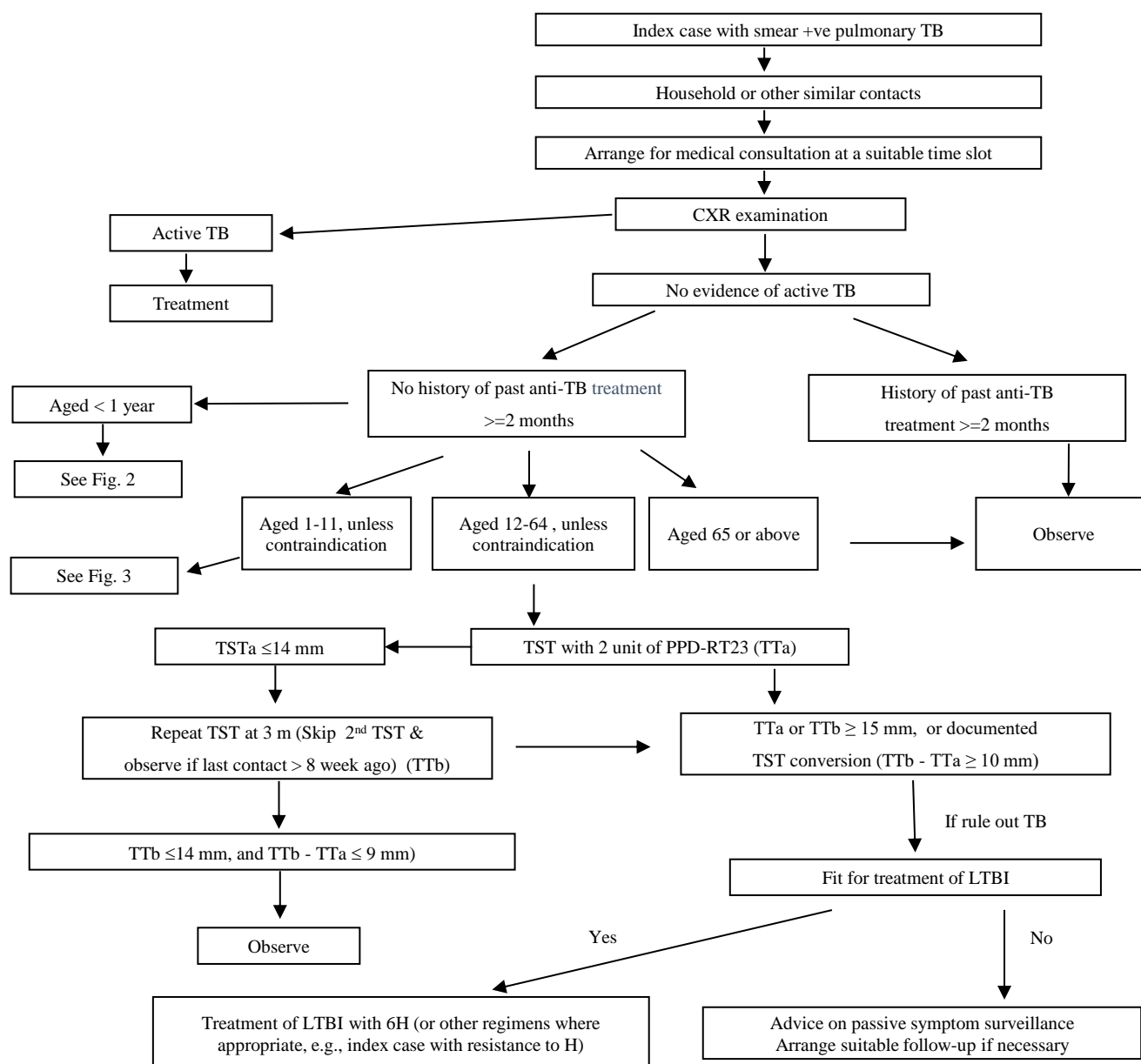
\* For close contacts with risk factors for adverse effects from latent TB infection treatment, (e.g. alcoholic, underlying chronic liver disease, etc.), the decision to screen should be made on a case-by-case basis especially for the aged 35 - 64 group.

#### Flow chart for contact investigation of close contacts aged below 5 with smear negative index cases #



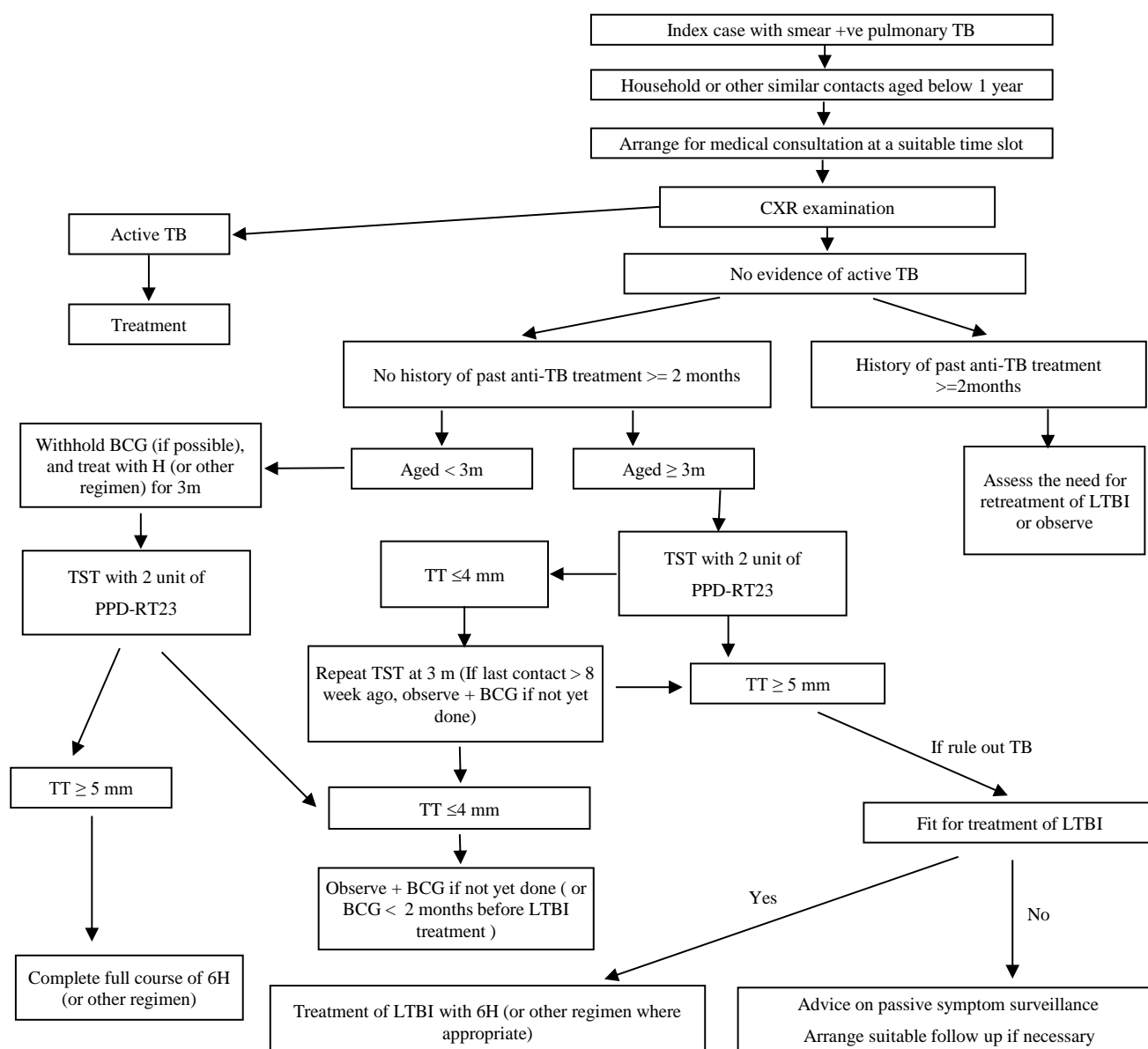
# If the index case has smear-negative TB and the close contact case is aged below five, the contact case is first evaluated by tuberculin skin test alongside clinical assessment. If the contact case is aged below 3 months and clinically well, the tuberculin test can be postponed until the contact case is 3 months old. If the contact case is clinically well and the tuberculin skin test result is 4 mm or less, health education is all that is required. If the contact case is clinically unwell or the tuberculin skin test result is 5 mm or more, chest X-ray is taken. If chest X-ray is normal, only health education is required. Otherwise, further investigation may be considered.

**Appendix 21(b) Figure 1: General schema for targeted screening of household contacts of smear-positive pulmonary TB patients**



Targeted screening for active TB and latent TB infection is regularly offered to subjects exposed to smear-positive pulmonary TB patients in the same household or other similar scenarios. Medical consultation is arranged at a suitable time slot, when chest X-ray examination will first be done to exclude active TB for which treatment will be given. Contacts with no evidence of active TB but a history of past anti-TB treatment will be observed, whereas those with no history of past anti-TB treatment will be managed according to their age group. For contacts aged below 1, please refer to Figure 2. For contacts aged 1 to 11, please refer to Figure 3. For contacts aged 12 to 64, tuberculin skin test (TST) is routinely offered, unless there are contraindications. For those aged 65 or above, just observe. TST is done using 2 units of PPD-RT23. If the induration measured after 48 to 72 hours is no more than 14 mm, repeat TST 3 months later, unless the contact has had no further contact with the index case for more than 8 weeks. If the test response of either the first or the second TST is at least 15 mm, or if the difference between the two test responses is at least 10 mm, consider treatment of latent TB infection with daily isoniazid for 6 months (or other regimens where appropriate, for example, when the index case has TB with isoniazid resistance). If treatment of latent TB infection is indicated but the contact case is medically not fit, provide advice on passive symptom surveillance and arrange suitable follow-up if necessary.

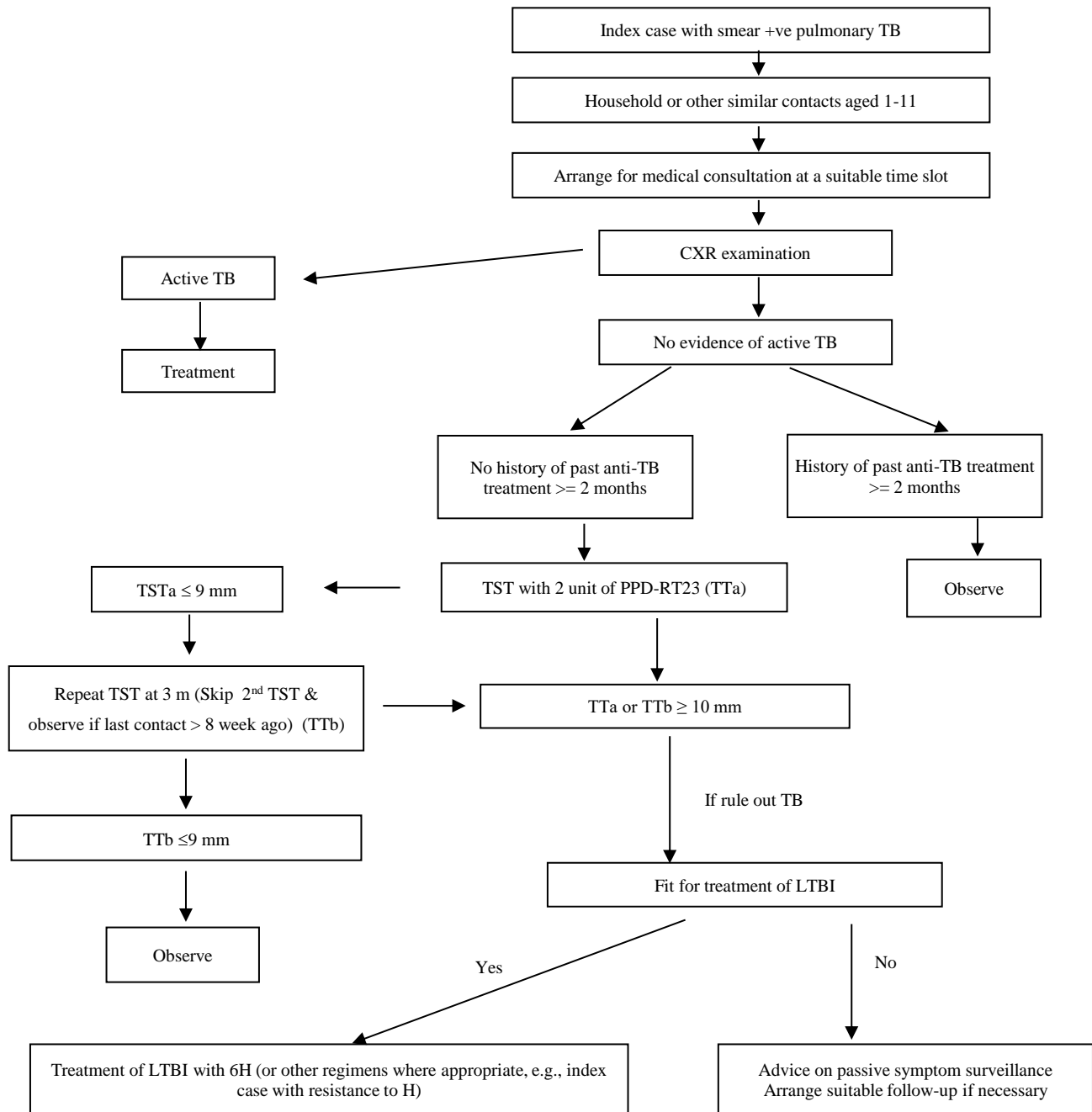
**Appendix 21(b) Figure 2: Targeted screening of household contacts aged below one year**



Targeted screening for active TB and latent TB infection is regularly offered to subjects aged below 1 year and exposed to smear-positive pulmonary TB patients in the same household or other similar scenarios. Medical consultation is arranged at a suitable time slot, when chest X-ray examination will first be done to exclude active TB for which treatment will be given. For contacts with no evidence of active TB but a history of past anti-TB treatment, the need for retreatment of latent TB infection versus observation will be assessed. For those with neither active TB nor a history of past anti-TB treatment, further management is stratified by their age group. For contacts aged below 3 months, withhold BCG if possible, and treat with isoniazid daily (or other regimens) for 3 months. This is followed by tuberculin skin test (TST) using 2 units of PPD-RT23. If the test response is at least 5 mm, complete a full course of 6-month isoniazid preventive treatment (or other regimens). If the test response is no more than 4 mm, observe and give BCG if it has not yet been given or given less than 2 months before starting treatment for latent TB infection.

For contacts aged 3 months or above, TST is done using 2 units of PPD-RT23. If the test response is no more than 4 mm, repeat TST 3 months later, unless the contact has had no further contact with the index case for more than 8 weeks. If the test response of either the first or second TST is at least 5 mm, consider treatment of latent TB infection with daily isoniazid for 6 months (or other regimens where appropriate). If treatment of latent TB infection is indicated but the contact case is medically not fit, provide advice on passive symptom surveillance and arrange suitable follow-up if judged necessary. If the test response of the second TST (or the single TST done more than 8 weeks ago after last contact) is no more than 4 mm, observe and give BCG if it has not yet been given.

**Appendix 21(b) Figure 3: Targeted screening of household contacts aged between 1 to 11**



For contacts aged 1 to 11, tuberculin skin test (TST) cut-off is set at 10mm.

### III. Tuberculosis in Hong Kong

#### Appendix 21(c) Examination of Contacts in the Chest Clinics 2021

Particulars	Smear Positive Index Case	Smear Negative Index Case	Total
Number of patients (new & old) listed	815	2 716	3 531
Number of contacts listed	1 791	6 341	8 132
Number of contacts exam	1 734	5 834	7 568
Non-respondents	57	507	564
<u>Result of contact examined</u>			
(a) NSD	1 578 (91.00%)	5 496 (94.21%)	7 074 (93.47%)
(b) Disease other than TB	103 (5.94%)	263 (4.51%)	366 (4.84%)
(c) Inactive respiratory TB	18 (1.04%)	35 (0.60%)	53 (0.70%)
(d) Active respiratory TB			
A (radiologically)	20 (1.15%)	14 (0.24%)	34 (0.45%)
B (bacteriologically)	3 (0.17%)	7 (0.12%)	10 (0.13%)
C (incomplete)	3 (0.17%)	5 (0.09%)	8 (0.11%)
(e) Non-respiratory TB	0 (0.00%)	2 (0.03%)	2 (0.03%)
(f) Result not yet known	9 (0.52%)	12 (0.21%)	21 (0.28%)
Total of (a) to (f)	1 734 (100.00%)	5 834 (100.00%)	7 568 (100.00%)

#### Appendix 22(a) Scheme for BCG Administration in Hong Kong 2021

Population Group		Procedures
Newborns		Direct BCG with intradermal method
Children under the age of 15	Negative BCG history and negative BCG scar	Direct BCG with intradermal method (Since September 2000)
	BCG history and / or BCG scar	No action
Primary School Children (aged 6 – 10)		BCG revaccination programme has been stopped since September 2000

### III. Tuberculosis in Hong Kong

#### Appendix 22(b) BCG Vaccinations at Birth 2021

Institution		No. of Live-births	BCG Vaccination	% Vaccinated
Hospital under HA Management	P.Y. Nethersole East	1 529	1 524	99.7
	Queen Mary	2 657	2 603	98.0
Private Hospital	Canossa	318	315	99.1
	Gleneagles H.K.	577	571	99.0
	H.K. Adventist	215	212	98.6
	H.K. Sanatorium	1 830	1 811	99.0
	Matilda International	735	694	94.4
	St. Paul's	915	902	98.6
Total (Hong Kong Island)		8 776	8 632	98.4
Hospital under HA Management	Kwong Wah	2 493	2 462	98.8
	Queen Elizabeth	4 190	4 157	99.2
	United Christian	2 155	2 131	98.9
Private Hospital	H.K. Baptist	1 769	1 753	99.1
	St. Teresa's	2 589	2 541	98.1
	Precious Blood <sup>(1)</sup>	201	200	99.5
Total (Kowloon)		13 397	13 244	98.9
Hospital under HA Management	Prince of Wales	4 154	4 136	99.6
	Princess Margaret	2 821	2 778	98.5
	Tuen Mun	3 391	3 388	99.9
Private Hospital	T.W. Adventist	1 044	1 037	99.3
	Union	3 360	3 329	99.1
	CUHK Medical Centre <sup>(2)</sup>	2	2	100.0
Total (New Territories)		14 772	14 670	99.3
Maternal and Child Health Centres and Private Clinics		-	79	-
Grand Total		36 945	36 625	99.1

Notes:

- (1) Maternity service of Precious Blood Hospital commenced operation on 1.9.2009 and closed since 1.9.2021
- (2) Maternity service of CUHK Medical Centre commenced operation on 21.10.2021

**Appendix 23    Tuberculosis and Chest Beds in Public Services 2021**

<b>Hospital</b>		<b>Number of TB and Chest Beds</b>
Hospital Authority	Grantham Hospital	122
	Kowloon Hospital	106
	Ruttonjee Hospital	102
	Haven of Hope Hospital	135
	Wong Tai Sin Hospital	94
	Total (Hospital Authority)	559
Custody	Stanley Prison Hospital	20
Grand Total (2021)		579
Grand Total (2020)		584
Grand Total (2019)		582

#### Appendix 24 Annual Admissions to Chest Hospitals from Government Chest Clinics 2012-2021

Year	Total admissions
2012	2 940
2013	2 823
2014	2 799
2015	2 631
2016	2 579
2017	2 459
2018	2 255
2019	1 981
2020	1 009
2021	919

Admissions by Clinic	Total Admissions in 2021
East Kowloon	90
Kowloon	25
Sai Ying Pun	82
Shaukeiwan	97
Shaukeiwan Pneumoconiosis	18
Shek Kip Mei	36
South Kwai Chung	186
Tai Po	14
Wanchai	49
Yan Oi	111
Yaumatei	22
Yuen Chau Kok	88
Yung Fung Shee	45
Cheung Chau	2
NT Chest Clinic <sup>(1)</sup>	54
<b>Total</b>	<b>919</b>

Note:

(1) NT Chest Clinic includes Sai Kung, Sheung Shui, Tung Chung and Yuen Long Chest Clinic.

#### Appendix 25 HIV Surveillance Among TB Patients:

#### Provider-initiated HIV Antibody Testing Among TB Patients in Government Chest Clinics from 2005 - 2021

Year	HIV positive		HIV negative		HIV results unknown or not done		Total	
	Number	%	Number	%	Number	%	Number	%
2005	35	0.7 %	4 174	80.5 %	973	18.8 %	5 182	100 %
2006	33	0.7 %	4 478	90.4 %	445	9.0 %	4 956	100 %
2007	41	0.9 %	4 034	87.8 %	517	11.3 %	4 592	100 %
2008	48	1.0 %	4 073	88.8 %	464	10.1 %	4 585	100 %
2009	40	0.9 %	3 953	88.1 %	496	11.0 %	4 489	100 %
2010	28	0.7 %	3 805	89.5 %	418	9.8 %	4 251	100 %
2011	33	0.8 %	3 623	89.7 %	381	9.4 %	4 037	100 %
2012	22	0.5 %	3 685	90.7 %	357	8.8 %	4 064	100 %
2013	24	0.6 %	3 512	87.6 %	473	11.8 %	4 009	100 %
2014	23	0.6 %	3 322	87.5 %	450	11.9 %	3 795	100 %
2015	24	0.7 %	3 266	90.4 %	322	8.9 %	3 612	100 %
2016	28	0.8 %	3 244	91.3 %	283	8.0 %	3 555	100 %
2017	31	0.9 %	3 225	93.0 %	211	6.1 %	3 467	100 %
2018	23	0.6 %	3 336	93.1 %	225	6.3 %	3 584	100 %
2019	33	1.0 %	3 067	93.1 %	194	5.9 %	3 294	100 %
2020	15	0.5 %	2 798	92.9 %	198	6.6 %	3 011	100 %
2021	29	0.9 %	2 906	92.5 %	205	6.5 %	3 140	100 %

NB:

Since late 2008, Unlinked Anonymous Screening (UAS) is no longer performed, and surveillance of HIV among TB patients mainly depends on voluntary HIV testing.

#### Appendix 26 Number of ‘Confirmed’ cases of TB in Health Care Staff Notified to Labour Department 1999 - 2021

Year	Number
1999	57
2000	39
2001	41
2002	29
2003	30
2004	42
2005	30
2006	18
2007	16
2008	25
2009	18
2010	11
2011	17
2012	15
2013	7
2014	7
2015	9
2016	6
2017	9
2018	4
2019	5
2020	3
2021	11

#### ‘Confirmed’ Cases of TB in Health Care Staff Notified to Labour Department (2021) by Age and Job Title

Age group	Doctor	Nurse	Other Allied Health Professional	Other Supporting Staff	Total
20 - 24					
25 - 29		4			4
30 - 34					
35 - 39					
40 - 44		1			1
45 - 49		1			1
50 - 54		2		1	3
55 - 59		1			1
60 - 64		1			1
65 - 69					
70 - 74					
Total	0	10	0	1	11

## Appendix 27 Treatment outcomes of Cohorts of TB Patients

Treatment outcomes for TB cases registered in 2020 calendar year (number of patients) <sup>(1)</sup>

	Number of cases registered in 2020 <sup>(2)</sup>		Cured or treatment completed		Treatment failed		Died <sup>(3)</sup>		Lost to follow-up (defaulted)		Not evaluated <sup>(4)</sup>	
All new and relapse cases (bacteriologically confirmed or clinically diagnosed, pulmonary or extrapulmonary)	3 635	100.00%	2 701	74.31%	0	0.00%	697	19.17%	76	2.09%	161	4.43%
HIV-positive TB cases, all types	18	100.00%	11	61.11%	0	0.00%	3	16.67%	1	5.56%	3	16.67%

Treatment outcomes for TB cases started on second-line TB treatment in 2019 calendar year (number of patients) <sup>(1)</sup>

	Number of cases started on second-line TB treatment in 2019		Cured or treatment completed		Treatment failed		Died		Lost to follow-up (defaulted)		Not evaluated <sup>(4)</sup>	
All confirmed RR-TB / MDR-TB cases	21	100.00%	17	80.95%	0	0.00%	2	9.52%	0	0.00%	2	9.52%
All confirmed XDR-TB cases <sup>(5)</sup>	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%

### Notes:

- (1) Treatment outcomes as evaluated in March 2022.
- (2) Exclude cases on second-line treatment (i.e. excluding rifampicin-resistant cases).
- (3) Death (TB-related or non-TB related cause of death) before starting treatment or during the course of treatment.
- (4) “Not evaluated” includes “transferred out”, “still on treatment” and any other registered cases where the treatment outcomes have not been evaluated.
- (5) Excluding all confirmed RR-TB / MDR-TB cases which are not XDR-TB cases.

## **IV. Pneumoconiosis**

#### IV. Pneumoconiosis

### Appendix 1 New Cases of Suspected Pneumoconiosis/Mesothelioma attending the Pneumoconiosis Clinic in Hong Kong 1956 - 2021

Year	New Cases Undergoing Assessment						Cumulative Total of patients Confirmed by the Board		
	Government Workers	Non- government Workers	Total number of Workers	Number of Diseases confirmed by the Board #					Cumulative Total of Workers
				(b)	(e)	(f)			
1956	1	-	1	-	-	-	1	-	-
1957	4	4	8	-	-	-	9	-	-
1958	9	13	22	-	-	-	31	-	-
1959	5	7	12	-	-	-	43	-	-
1960	9	6	15	-	-	-	58	-	-
1961	8	-	8	-	-	-	66	-	-
1962	3	1	4	-	-	-	70	-	-
1963	9	5	14	-	-	-	84	-	-
1964	21	17	38	-	-	-	122	-	-
1965	9	4	13	-	-	-	135	-	-
1966	7	9	16	-	-	-	151	-	-
1967	3	6	9	-	-	-	160	-	-
1968	4	2	6	-	-	-	166	-	-
1969	4	10	14	-	-	-	180	-	-
1970	22	36	58	-	-	-	238	-	-
1971	9	18	27	-	-	-	265	-	-
1972	9	29	38	-	-	-	303	-	-
1973	3	39	42	-	-	-	345	-	-
1974	-	97	97	-	-	-	442	-	-
1975	5	84	89	-	-	-	531	-	-
1976	15	252	267	-	-	-	798	-	-
1977	3	216	219	-	-	-	1 017	-	-
1978	12	207	219	-	-	-	1 236	-	-
1979	2	210	212	-	-	-	1 448	-	-
1980	12	532	544 (a)	-	-	-	1 992	386 (a)	-
1981	8	608	616	-	-	-	2 608	1 332	162
1982	4	511	515	-	-	-	3 123	1 434	634
1983	2	292	294	-	-	-	3 417	1 469	945
1984	1	231	232	-	-	-	3 649	1 477	1 140
1985	1	179	180	-	-	-	3 829	1 479	1 322
1986	3	176	179	(3)	-	(188)	4 008	1 485	1 513
1987	4	166	170	(2)	-	(164)	4 178	1 485	1 679
1988	6	172	178	(4)	-	(194)	4 356	1 488	1 877
1989	-	156	156	(1)	-	(145)	4 512	1 488	2 023
1990	2	147	149	(1)	-	(118)	4 661	1 489	2 142
1991	-	171	171	(1)	-	(8)	4 832	1 489	2 151
1992	2	171	173	(3)	-	(186)	5 005	1 490	2 340
1993	2	247	249	(4)	-	(148)	5 254	1 492	2 492
1994	-	327	327	(7)	-	(271)	5 581	1 493	2 770
1995	9	245	254	(9)	-	(221)	5 835	1 494	3 000
1996	4	193	197	(9)	-	(110)	6 032	1 494	3 119
1997	4	154	158	(7)	-	(116)	6 190	1 494	3 242
1998	2	197	199	(5)	-	(104)	6 389	1 494	3 351
1999	-	291	291	(15)	-	(139)	6 680	1 494	3 505
2000	3	235	238	(11)	-	(103)	6 918	1 494	3 619
2001	6	230	236	(9)	-	(123)	7 154	1 494	3 751
2002	3	212	215	(9)	-	(108)	7 369	1 494	3 868
2003	3	142	145	(6)	-	(74)	7 514	1 494	3 948
2004	3	138	141	(4)	-	(69)	7 655	1 494	4 021
2005	-	134	134	(2)	-	(68)	7 789	1 494	4 091
2006	-	278	278	(7)	-	(109)	8 067	1 494	4 207
2007	-	120	120	(2)	-	(67)	8 187	1 494	4 276
2008	3	118	121	(5)	(1)	(65)	8 308	1 494	4 347
2009	-	167	167	(5)	(15)	(86)	8 475	1 494	4 453
2010	-	152	152	(1)	(12)	(61)	8 627	1 494	4 527

# IV. Pneumoconiosis

## Appendix 1 New Cases of Suspected Pneumoconiosis/Mesothelioma attending the Pneumoconiosis Clinic in Hong Kong 1956 - 2021 ---cont'd

Year	New Cases Undergoing Assessment						Cumulative Total of patients Confirmed by the Board		
	Government Workers	Non- government Workers	Total number of Workers	Number of Diseases confirmed by the Board #					Cumulative Total of Workers
				(b)	(e)	(f)	R1	R2	
2011	-	130	130	(9)	(13)	(63)	8 757	1 494	
2012	-	122	122	(3)	(12)	(44)	8 879	1 494	4 671
2013	-	156	156	(2)	(17)*	(51)	9 035	1 494	4 740 *
2014	3	138	141	(2)	(14)	(68)	9 176	1 494	4 824
2015	4	153	157	(0)	(13)	(56)	9 333	1 494	4 893
2016	2	144	146	(4)	(7)	(43)	9 479	1 494	4 947
2017	6	132	138	(2)	(16)	(54)	9 617	1 494	5 019
2018	1	125	126	(2)	(10)	(59)	9 743	1 494	5 090
2019	2	151	153	(7)**	(10)**	(52)	9 896	1 494	5 158 **
2020	2	191	193	(12)	(12)	(88)	10 089	1 494	5 270
2021	1	123	124 (c)	(7)**	(20)**	(67)	10 213	1 494 (d)	5 363 **

### Notes:

- (a) The Pneumoconiosis Compensation Scheme was initiated in 1980, before that reporting was voluntary.
- (b) The figures in this column denote the number of cases of asbestos-related lung disease confirmed by the Board.
- (c) Up to the moment that this report is being compiled, 74 of these 124 assessment cases in 2021 had been confirmed to be pneumoconiosis (Silicosis or Asbestosis) by the Pneumoconiosis Medical Board. And the following tables (Appendix 2 to Appendix 8) are compiled based on these 74 cases.
- (d) Under Revised Ordinance 1993 : 584 out of 1494 pneumoconiotics had joined the pneumoconiosis ex-gratia scheme up to the year 2021. 26 living pneumoconiotics were each receiving a monthly ex-gratia payment of \$7,850.00 in 2021.
- (e) The figures in this column denote the number of cases of Mesothelioma confirmed by the Board.
- (f) The figures in this column denote the number of cases of Silicosis confirmed by the Board.
- R1 Patients having pneumoconiosis with the date of diagnosis before 1 January 1981 who were alive as at 31 December 1980 are eligible for a government funded ex-gratia compensation scheme.
- R2 Patients having pneumoconiosis with the date of diagnosis on or after 1 January 1981 are eligible for a levy funded compensation scheme under the Pneumoconiosis (Compensation) Ordinance (the Ordinance). The Ordinance was amended to cover for mesothelioma as well in 2008.
- # Patients may have more than one disease.
- \* 1 patient is confirmed with a second disease in that year.
- \*\* 1 patient is confirmed with both Asbestosis and Mesothelioma.

**Appendix 2      Age Distribution of Pneumoconiosis Patients confirmed in 2021**

<b>Age</b>	<b>Number of cases</b>	<b>%</b>
<25	0	0
25    -    29	0	0
30    -    34	0	0
35    -    39	0	0
40    -    44	0	0
45    -    49	0	0
50    -    54	0	0
55    -    59	4	5
60    -    64	22	30
65    -    69	19	26
70    -    74	14	19
75+	15	20
<b>Total</b>	<b>74</b>	<b>100</b>

**Appendix 3 Occupation Distribution of Pneumoconiosis Patients confirmed in 2021**

Type of Occupation	Number of Cases	%
Construction	56	76
Construction / Quarry	0	0
Others	18	24
Total	74	100

**Appendix 4 Pneumoconiosis Patients confirmed in 2021 by Duration of Exposure to Dust**

Duration	Number of Cases	%
< 5 years	1	1
5 - 9	0	0
10 - 14	2	3
15 - 19	4	5
20 - 24	8	11
25 - 29	11	15
30 +	44	60
Unknown / Uncertain	4	5
Total	74	100

**Appendix 5      Pneumoconiosis Patients confirmed in 2021 by Degree of Incapacity**

Degree of Incapacity (%)	No. of New Cases Compensated under Compensation Ordinance
5	24
10	19
15	9
20	8
25	0
30	1
35	1
40	4
45	2
50	0
55	0
60	0
65	0
70	1
75	0
80	1
85	0
90	0
95	0
100	1
(Not Applicable *)	3
<b>Total</b>	<b>74</b>

Note:

\*      Assessment by Board after Death

**Appendix 6 Pneumoconiosis Patients confirmed in 2021 Classified by Radiological Appearance**

Type of Opacity	Profusion			Sub-Total
	1	2	3	
<u>Small opacities</u>				
<u>Rounded</u>				
p (up to 1.5 mm diameter)	44	4	0	48
q (1.5 to 3.0 mm diameter)	3	3	2	8
r (3.0 to 10.0 mm diameter)	1	2	0	3
<u>Irregular</u>				
s (fine irregular or linear)	3	1	0	4
t (medium irregular)	0	0	0	0
u (coarse irregular)	0	1	0	1
Sub-total	51	11	2	64
<u>Combined opacities</u>				
	-	-	-	6
<u>N.A.</u>	-	-	-	4
Total				74

9 out of 74 patients have large opacities as follows:

<u>Large opacities</u>		
A	(Single opacity 1 - 5 cm or multiple opacities > 1 cm each but sum of diameter < 5 cm)	6
B	(Single or multiple opacities with combined area < the equivalent of right upper zone)	3
C	(Single or multiple opacities with combined area > the equivalent of right upper zone)	0
Total		9

**Appendix 7 History of Tuberculosis (TB) among Patients with Pneumoconiosis confirmed in 2021**

History of TB		Number of Cases	%
History of TB	Bacteriological Positive	15	20
	Bacteriological Negative	4	6
	Not Available	6	8
No History of TB		49	66
Total		74	100

**Appendix 8 Pneumoconiosis Patients confirmed in 2021 by Other Particulars**

Characteristics		Number of Cases	%
Smoking	Smoker / Ex-smoker	66	89
	Non-smoker	8	11
	Unknown	0	0
	Total	74	100
Still exposed to dust when seen by the Pneumoconiosis Clinic	Yes	22	30
	No	52	70
	Unknown	0	0
	Total	74	100
General Condition	Good	70	95
	Fair	1	1
	Poor	0	0
	Died	3	4
	Total	74	100

### **ADDENDUM    A brief history of compensation for Pneumoconiosis and malignant mesothelioma in Hong Kong**

The Pneumoconiosis (Compensation) Ordinance (the Ordinance) was first introduced in 1980 for compensation of workers who acquired pneumoconiosis as a result of occupational exposure to silica and asbestos dusts with the date of diagnosis on or after 1 January 1981. This compensation scheme is funded by a levy which is imposed in respect of construction and quarry operations in Hong Kong. Compensation was paid out in the form of a lump sum according to the assessed degree of incapacity and the expected degree of further deterioration. On the other hand, eligible patients having pneumoconiosis with the date of diagnosis before the enactment of this ordinance who were alive as at 31 December 1980 are eligible for a government funded ex-gratia compensation scheme. The Ordinance was amended in 1993 to replace the lump sum payment with monthly payment payable to patients until their death. Reassessment at 2-yearly interval was also introduced at the same time to update the degree of incapacity for adjustment of the monthly compensation. Previously compensated post-1981 pneumoconiotics could apply for reassessment for compensation for additional incapacity. Further amendments were made in 1996. A flat-rate compensation for pain, suffering, and loss of amenities was payable to all post-1981 pneumoconiotics who had joined the revised scheme in 1993 or afterwards, irrespective of whether there was additional degree of incapacity over previous lump-sum compensation. The 1996 amendment also allowed the Pneumoconiosis Medical Board (the Board) to take other tests (FEV1 and adjusted DLCO) into consideration in adjusting the degree of incapacity (as determined by FVC) by a maximum of 5%. The ex-gratia payment scheme for pre-1981 pneumoconiotics was also reviewed. On top of a flat-rate of monthly payment, additional payments were introduced for those in need of constant care, oxygen and medical appliances. In 2008, the Pneumoconiosis (Compensation) Ordinance was amended to cover compensation for mesothelioma patients when it became the Pneumoconiosis and Mesothelioma (Compensation) Ordinance.

A new set of reference values for spirometry were published for the local population in 2006. A calibration study was subsequently performed in the Pneumoconiosis Clinic, comparing the new reference values with those published in 1982 among normal construction and quarry workers as well as silicosis patients. The new set of reference values was shown to reflect the lung function status of normal heavy manual workers better than the older set. Because of such findings, the new set of reference values has been adopted for compensation assessment since 2009.

## **V. Other findings**

## V. Other findings

### Annex 1(a) TB Among Chinese New Immigrants

Number of all notified TB cases and TB cases who are Chinese new immigrants (with years of arrival in Hong Kong)

	Years of Arrival	2017	2018	2019	2020	2021
Notified TB cases who are Chinese New Immigrants (with years of arrival in Hong Kong)	< 1 year	13	18	23	8	8
	1 and < 2 year	11	15	20	12	8
	2 and < 3 year	13	16	17	10	20
	3 and < 4 year	12	14	13	18	14
	4 and < 5 year	10	9	11	20	17
	5 and < 6 year	16	13	22	12	17
	6 and < 7 year	3	7	4	3	0
	Total	78	92	110	83	84
Yearly notified TB cases		4 250	4 268	4 003	3 656	3 716

The above table shows the number of all notified TB cases in Hong Kong from 2017 to 2021 and the number of TB cases among the Chinese new immigrants (residing in Hong Kong for less than 7 years) according to the number of years they have arrived in Hong Kong.

In Annex 1(b), the tables show the number of notified TB cases among the Chinese new immigrants by age and sex, and the estimated rates. In Annex 1(c), the table shows the number of all notified TB cases in Hong Kong by age and sex, and the rates.

From Annex 1(b), the overall estimated rates (per 100 000 population) among the new immigrants from 2017 to 2021 are 23.9, 28.3, 35.5, 30.2 and 33.3 respectively. The rates are lower than those of the general Hong Kong population. Although Mainland China has been classified by the World Health Organization as among one of the high TB burden countries in the world, the new immigrants coming to Hong Kong are likely to be a “selected” group. Their demographics and health condition may be quite different from and not representative of the whole population in China. For example, they may be younger, more ‘fit’, or with better socioeconomic condition. Hence, the rate of TB among this group may be lower.

# Annex 1(b) TB Notifications and Estimated Rate Among Chinese New Immigrants by Sex and Age from 2017 - 2021

Notified TB cases who are Chinese new immigrants (resided in HK < 7 years)

Age group	2017			2018			2019			2020			2021		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 - 19	5	1	6	3	1	4	6	1	7	0	4	4	1	1	2
20 - 39	9	27	36	16	31	47	14	25	39	10	25	35	13	23	36
40 - 59	9	20	29	19	10	29	25	19	44	14	15	29	18	11	29
≥ 60	6	1	7	6	6	12	15	5	20	10	5	15	11	6	17
All age groups	29	49	78	44	48	92	60	50	110	34	49	83	43	41	84

Estimated rate of TB (per 100 000 population) among Chinese new immigrants (resided in HK < 7 years)

Age group	2017			2018			2019			2020			2021		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 - 19	11.6	2.6	7.3	6.9	2.6	4.8	13.6	2.5	8.4	0.0	11.1	5.2	2.7	3.0	2.8
20 - 39	27.0	25.1	25.5	46.2	30.5	34.5	42.1	26.7	30.7	33.8	31.2	31.9	46.4	32.6	36.5
40 - 59	26.7	35.7	32.3	53.7	17.8	31.7	76.6	37.2	52.6	47.7	33.4	39.1	63.9	26.8	41.9
≥ 60	98.2	14.2	53.2	85.7	77.5	81.4	202.6	62.8	130.2	143.4	69.3	105.7	163.5	89.2	126.4
All age groups	24.9	23.3	23.9	36.5	23.4	28.3	51.1	26.0	35.5	32.0	29.1	30.2	42.8	27.1	33.3

## Annex 2(a) TB Notifications and Rate (All Cases) by Sex and Age from 2017 - 2021

All TB cases by Sex and Age

Age group	2017			2018			2019			2020			2021		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 - 19	74	56	130	44	40	84	42	28	70	34	37	71	40	27	67
20 - 39	317	468	785	326	482	808	269	401	670	263	394	657	209	370	579
40 - 59	656	459	1 115	625	451	1 076	610	391	1 001	499	398	897	544	456	1 000
≥ 60	1 627	593	2 220	1 709	591	2 300	1 680	582	2 262	1 486	545	2 031	1 528	542	2 070
All age groups	2 674	1 576	4 250	2 704	1 564	4 268	2 601	1 402	4 003	2 282	1 374	3 656	2 321	1 395	3 716

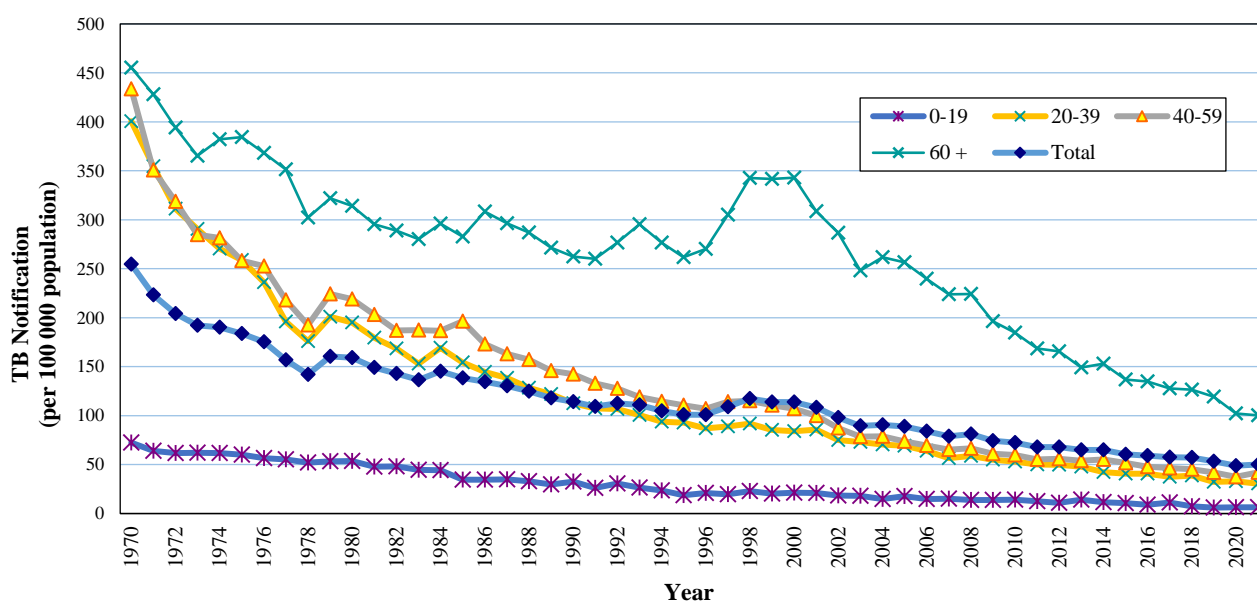
Notification rate of all TB cases (per 100 000 population)

Age group	2017			2018			2019			2020			2021		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 - 19	12.3	10.0	11.2	7.3	7.1	7.2	7.0	5.0	6.0	6.0	6.9	6.4	7.3	5.2	6.2
20 - 39	34.9	39.3	37.4	36.0	40.6	38.6	30.0	34.1	32.3	30.0	35.2	32.9	24.8	35.0	30.5
40 - 59	61.8	34.4	46.6	59.8	33.7	45.2	59.2	29.0	42.1	48.7	29.1	37.5	54.0	33.3	42.1
≥ 60	197.4	65.0	127.8	198.2	61.9	126.5	186.8	58.3	119.3	156.9	52.4	102.2	155.5	50.1	100.2
All age groups	78.8	39.4	57.5	79.3	38.7	57.3	76.0	34.3	53.3	66.8	33.8	48.9	68.6	34.6	50.1

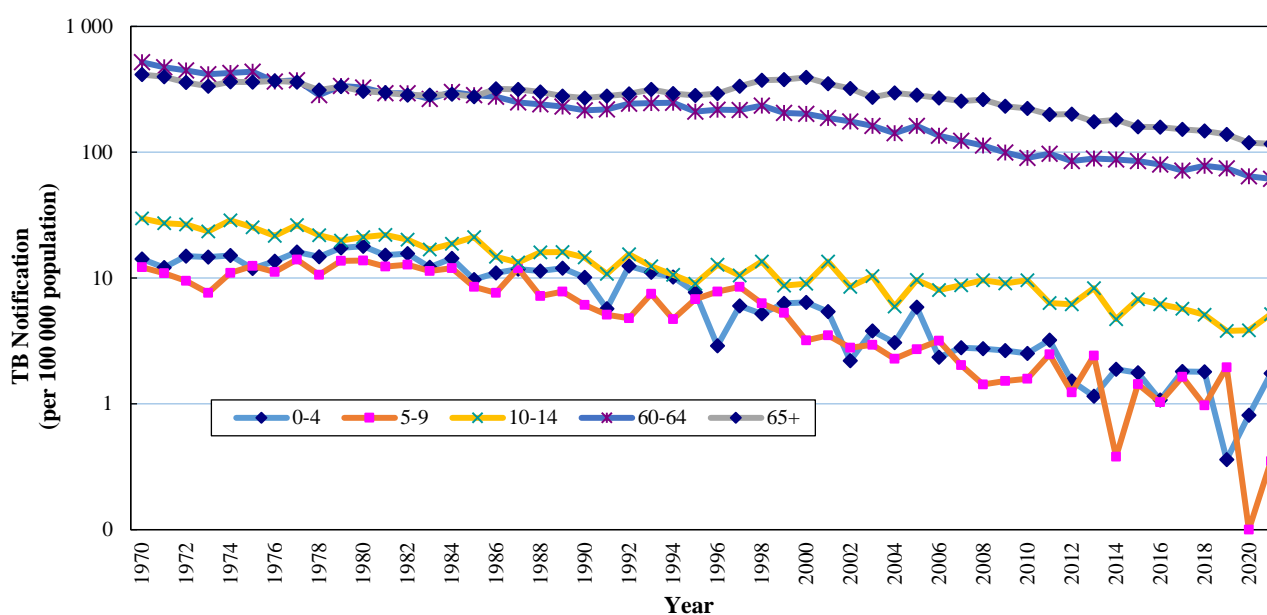
As shown above, the rates of TB among males are in general higher than that among females, and higher in the older age groups. The overall rates (per 100 000 population) from 2017 to 2021 are 57.5, 57.3, 53.3, 48.9 and 50.1 respectively.

## Annex 2(b) Trend of age-specific TB Notification Rate from 1970 - 2021

Trend of Age-specific TB Notification Rate (All Gender) from 1970 - 2021



Trend of Age-specific TB Notification Rate (All Gender) from 1970 - 2021



- All the age-specific TB notification rates, particularly those of the younger age groups, show a generally declining trend.
- TB can develop from progressive primary infection, exogenous re-infection, or endogenous reactivation. The trend of progressive primary infection is best reflected by the trends of the younger age groups, in particular that of the 0-4 age group. On the other hand, endogenous reactivation is better reflected by the trends of the older age groups, which generally show slower rates of decline than those of the younger age groups.
- The transient increase in rates for the age group 60+ during the period 1997 to 2000 (top graph) is likely due to strengthened surveillance measures targeting at bacteriologically positive and death cases through laboratory data and data from death certificates.

### **Annex 3 TB-HIV Registry**

A total of 30 cases with TB-HIV co-infection were reported to the TB-HIV Registry in 2021. The cumulative number of cases reported to the TB-HIV Registry from all sources as in 2021 was 793 (Table 1).

Information on TB as a primary AIDS-defining illness is available in 28 out of 30 cases reported to the TB-HIV Registry in 2021. Of these 28 cases, 21 (75.0%) had TB as a primary AIDS-defining illness (Table 2).

The drug susceptibility pattern among culture-positive (sputum or other specimens) TB-HIV cases for the years 1996-2021 is shown in Table 3. Twenty-two patients reported to the TB-HIV Registry had a positive sputum and/or other specimen culture in 2021. Only one case had disease due to *Mycobacterium tuberculosis* resistant to isoniazid and streptomycin, all other cases had diseases with favourable susceptibility pattern. Among all the 557 cases reported to TB-HIV Registry with a positive sputum or other specimen culture between 1996 and 2021, 9 (1.6%) had MDRTB. There is no XDR-TB case detected among the reported TB-HIV cases so far. DH will continue to monitor prevalence of drug resistance in the context of HIV.

Table 4 shows the characteristics of 30 patients seen at chest clinics and/or SPP in 2021. The median CD4 count was 78/ $\mu$ L at time of TB diagnosis which is similar to the median count in 2020. Extra-pulmonary involvement (irrespective of lung involvement) is found in nearly three-quarter of patients.

**Annex 3 TB-HIV Registry --- cont'd**

**Table 1: Total number of TB-HIV cases reported to TB-HIV Registry, all sources from 1996–2021 <sup>(1)</sup>**

Year	Number of TB-HIV cases <sup>(2)</sup>
1996	22
1997	19
1998	22
1999	25
2000	24
2001	34
2002	22
2003	28
2004	35
2005	42
2006	50
2007	56
2008	50
2009	38
2010	25
2011	28
2012	20
2013	21
2014	25
2015	24
2016	36
2017	31
2018	29
2019	39
2020	18
2021	30
<b>Total</b>	<b>793</b>

Notes:

- (1) Including cases reported from all sources (chest clinics, SPP, HA hospitals and private centres).
- (2) Some of the figures in the table for the previous years have been updated after
  - ( i ) taking out some mismatched cases and cases with a revised diagnosis;
  - ( ii ) adding some cases which were previously unreported.

## V. Other findings

### Annex 3 TB-HIV Registry --- *cont'd*

**Table 2: TB as primary AIDS-defining illness among 607 cases reported to chest clinics and/or SPP from 1996-2021 <sup>(1)</sup>**

Year	TB as primary AIDS-defining illness					Total
	Yes			No	Information not available	
	Extra-pulmonary	Pulmonary and TB cervical lymph node with CD4 < 200 µL	Subtotal			
1996	1	7	8	1	0	9
1997	2	3	5	2	0	7
1998	6	3	9	3	0	12
1999	7	6	13	3	0	16
2000	3	4	7	5	0	12
2001	4	6	10	7	0	17
2002	4	9	13	2	0	15
2003	1	10	11	5	0	16
2004	5	7	12	11	0	23
2005	8	14	22	7	0	29
2006	9	19	28	7	0	35
2007	10	17	27	8	2	37
2008	14	13	27	6	0	33
2009	9	3	12	6	5	23
2010	4	10	14	5	3	22
2011	6	8	14	8	6	28
2012	4	9	13	5	2	20
2013	7	10	17	1	3	21
2014	7	8	15	9	1	25
2015	7	5	12	8	4	24
2016	8	8	16	17	3	36
2017	8	6	14	12	5	31
2018	5	8	13	11	5	29
2019	13	7	20	19	0	39
2020	3	5	8	9	1	18
2021	10	11	21	7	2	30
Total	165	216	381	184	42	607

Note:

- (1) Some of the figures in the table for the previous years have been updated. Of all the cases reported to the TB-HIV Registry from 1996 to 2021, 607 cases were seen at chest clinics and/or SPP. The table is compiled basing on data of these 607 cases.

## V. Other findings

### Annex 3 TB-HIV Registry --- *cont'd*

**Table 3: Drug susceptibility pattern among culture positive (sputum and/or other specimens) TB-HIV cases from TB-HIV Registry, all sources from 1996 - 2021**

Year	Susceptible to SHRE	Any resistance (non-MDR/XDR)	MDR	XDR	Drug susceptibility unknown	Total number of culture positive cases
1996	7	1	0	0	0	8
1997	5	1	0	0	0	6
1998	13	1	0	0	0	14
1999	16	4	1	0	0	21
2000	13	2	0	0	0	15
2001	23	5	0	0	0	28
2002	11	3	1	0	0	15
2003	18	2	1	0	0	21
2004	20	6	0	0	0	26
2005	29	5	0	0	0	34
2006	32	3	0	0	0	35
2007	30	7	1	0	0	38
2008	30	3	0	0	0	33
2009	22	7	0	0	0	29
2010	12	2	0	0	0	14
2011	12	4	0	0	0	16
2012	13	2	1	0	0	16
2013	13	5	0	0	0	18
2014	11	7	0	0	1	19
2015	14	1	2	0	2	19
2016	27	3	2 <sup>(1)</sup>	0	0	32
2017	19	2	0 <sup>(1)</sup>	0	0	21
2018	16	2	0	0	0	18
2019	27	1	0	0	0	28
2020	11	0	0	0	0	11
2021	21	1	0	0	0	22
Total	465	80	9	0	3	557

Note:

(1) Excluding one case with clinical specimen cultured negative but rpo B mutation detected.

### Annex 3 TB-HIV Registry --- cont'd

**Table 4: Characteristics of 30 TB-HIV cases reported from chest clinics and SPP in 2021**

	Number	Proportion
Age distribution		
0 to 19	1	3.3%
20 to 39	4	13.3%
40 to 59	17	56.7%
60+	8	26.7%
Sex distribution		
Male	26	86.7%
Female	4	13.3%
Ethnicity		
Chinese	19	63.3%
Asians, non-Chinese	11	36.7%
African	0	0.0%
Others	0	0.0%
Case category		
New case	26	86.7%
Relapse	4	13.3%
Treatment after default	0	0.0%
Failure of previous treatment	0	0.0%
Others	0	0.0%
Unknown	0	0.0%
TB as a primary AIDS-defining illness N = 28 <sup>(1)</sup>		
Yes	21	75.0%
No	7	25.0%
CD4 count at time of co-infection (median, IQR)	78 (31.8-176.0)/uL	
Anti-retroviral therapy at time of co-infection		
Yes	12	40.0%
No	18	60.0%
Presence of extra-pulmonary TB (irrespective of lung involvement)		
Yes	22	73.3%
No	8	26.7%
Extent of Respiratory TB N = 20 <sup>(1)</sup>		
Minimal	14	70.0%
Moderate	1	5.0%
Extensive	5	25.0%
Sputum bacteriological status (pre-treatment) N = 27 <sup>(1)</sup>		
Smear + culture +	6	22.2%
Smear - culture +	14	51.9%
Smear + culture -	0	0.0%
Smear - culture -	7	25.9%
Drug resistance pattern (pre-treatment) (based on sputum and/or other specimen culture) N = 22 <sup>(1)</sup>		
Susceptible to SHRE	21	95.5%
Resistant to rifampicin alone	0	0.0%
Resistant to streptomycin and isoniazid	1	4.5%
MDR	0	0.0%
XDR	0	0.0%

Note:

(1) N = number of cases available for analysis, N = 30 if not specified

**Annex 4 Crude and Standardised Death Rate and Notification Rate 2001 - 2021 <sup>(1)</sup>**

Year	Crude Death Rate	Standardised Death Rate <sup>(2)</sup>	Crude Notification Rate	Standardised Notification Rate <sup>(2)</sup>
2001	4.6	4.6	108.2	108.2
2002	4.0	3.8	97.9	96.5
2003	4.1	3.8	89.5	87.1
2004	4.2	4.3	91.8	87.6
2005	4.0	3.4	90.4	85.2
2006	4.3	3.6	84.1	77.9
2007	3.3	2.6	79.0	71.5
2008	3.3	2.5	81.0	72.1
2009	2.9	2.3	74.5	65.6
2010	2.7	2.0	72.5	63.3
2011	2.6	1.8	67.8	57.8
2012	2.8	1.9	67.9	57.8
2013	2.5	1.7	64.9	54.8
2014	2.6	1.7	65.0	53.5
2015	2.3	1.4	60.5	49.5
2016	2.2	1.2	59.2	48.2
2017	2.5	1.5	57.5	46.4
2018	2.5	1.5	57.3	45.2
2019	2.7	1.5	53.3	41.0
2020	2.7	1.4	48.9	38.0
2021	2.3	1.4	50.1	38.7

Notes:

(1) Death rate and notification rate per 100 000 population.

(2) Age and sex-standardisation, using the mid-2001 population as the standard population.

## V. Other findings

### Annex 5 HBsAg Seroprevalence Survey Among TB Patients Seen at Chest Clinics 2021

In a sample survey conducted by the TB & Chest Service of the Department of Health in 2021 (3-month period from 1.3.2021 to 31.5.2021), the overall HBsAg seropositive rate among TB patients seen at chest clinics was 7.87%.

Sex / Age Group	HBsAg status			HBsAg seropositive rate (%) <sup>(1)</sup>	Total
	Positive	Negative	Unknown		
Male					
0 - 19	0	9	2	0.00	11
20 - 39	2	49	0	3.92	51
40 - 59	15	116	1	11.45	132
≥ 60	22	290	5	7.05	317
Female					
0 - 19	1	5	2	16.67	8
20 - 39	2	85	0	2.30	87
40 - 59	10	109	1	8.40	120
≥ 60	12	86	3	12.24	101
Total	64	749	14	7.87	827

### HBsAg Seroprevalence Survey 2020 - 2021

Sex / Age Group	HBsAg seropositive rate (%)	
	2020	2021
Male		
0 - 19	0.00	0.00
20 - 39	5.56	3.92
40 - 59	14.41	11.45
≥ 60	8.97	7.05
Female		
0 - 19	0.00	16.67
20 - 39	3.66	2.30
40 - 59	9.78	8.40
≥ 60	5.05	12.24
Total	8.24	7.87

Note:

$$(1) \quad \text{HBsAg seropositivity rate} = \frac{\text{No. of HBsAg positive patients}}{(\text{No. of HBsAg positive patients} + \text{No. of HBsAg negative patients})}$$

# Supplement

**FORM 1**  
**PREVENTION AND CONTROL OF DISEASE ORDINANCE**  
**(Cap. 599)**

**TUBERCULOSIS NOTIFICATION**

**Particulars of Infected Person**

Name in English:		Name in Chinese:		Age / Sex:		I.D. Card / Passport No.:			
Residential Address:						Telephone No.: (Home) :			
Name and address of workplace / school / other institution:						(Mobile) : Patient : Family member :			
Job title / Class attended :						(Office / school / others):			
Hospital / Clinic sent to (if any):									
Site of TB (please ✓ all applicable) <input type="checkbox"/> Lung <input type="checkbox"/> Meninges <input type="checkbox"/> Pleura <input type="checkbox"/> Bone & Joint <input type="checkbox"/> Lymph node <input type="checkbox"/> Urinary system <input type="checkbox"/> Miliary <input type="checkbox"/> Genital system <input type="checkbox"/> Other(s) (please specify):						Sputum (please ✓ and attach laboratory report if available)		Other specimens (specify and ✓ below):	
				Smear	Culture	PCR test	Smear	Culture	
		Positive							
		Negative							
		Unknown							
		Not done							
Duration of stay in Hong Kong: _____ Years  History of past treatment for TB (delete whichever not applicable): Yes / No  If yes, YEAR first receiving treatment: _____				Disposal (please ✓ in front boxes and specify):  <input type="checkbox"/> Treatment started on: _____ (Date: dd/mm/yyyy)  <input type="checkbox"/> On observation  <input type="checkbox"/> Referred to _____ Hospital / Clinic / Private Practitioner  <input type="checkbox"/> Died on: _____ (Date: dd/mm/yyyy)					

(Please DELETE whichever is not applicable)

I will arrange for examination of contacts myself. / Please arrange for examination of contacts.

Further Remarks:

Notified under the Prevention and Control of Disease Regulation by

Dr. \_\_\_\_\_ of \_\_\_\_\_ Hospital / Clinic / Private Practice  
 (Full Name in BLOCK Letters)

\_\_\_\_\_ Ward / Unit / Specialty on \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ (Date: dd/mm/yyyy)

Telephone No.: \_\_\_\_\_

Fax No.: \_\_\_\_\_

\_\_\_\_\_  
 (Signature)

**[Part 1: To be completed by DOCTOR requesting TB denotification]**

To: Statistics Unit, Wanchai Chest Clinic, 99 Kennedy Road, Hong Kong (Fax: 2572 8921)

**Denotification of Previously Notified TB Case**

Clinic/ Hospital:		Clinic Hospital number:	
Name of patient:		HKID/ passport number:	
Date notified:		Smear:	Positive / Negative / Unknown
Revised diagnosis or other remarks:		Culture:	Negative / M tuberculosis / Non-tuberculous mycobacteria / Unknown / Others _____
Denotification requested by (Name and signature of doctor):		Tel:	Date:
		Fax:	

+++++

**[Part 2: To be completed by Statistics Unit of TB&CS]**

From: Statistics Unit of TB&CS

To: DOCTOR who sent in this request for denotification (Fax no. )

It is confirmed that the above TB denotification request has been received by the Statistics Unit of TB & Chest Service at Wanchai Chest Clinic.

Date:

Chop or signature:

+++++

**[Part 3: To be completed by Statistics Unit of TB&CS]**

From: Statistics Unit of TB&CS

To: \_\_\_\_\_ Chest Clinic (AE Chest Clinic) (Fax no.: )

Please note the above request for denotification for further necessary actions.

+++++

**[Part 4: To be completed by AE Chest Clinic]**

We have taken note of the above request for denotification. We have the following comments:

- ☐ No comments
- ☐ Agree with the request for denotification
- ☐ Please ignore the request for denotification, reason:

Signature and name of Chest Clinic doctor:		Chest Clinic:	Date:
--	--	---------------	-------

Notes for using the Form “TBdenotification/1403” for requesting denotification of a case previously notified as TB

1. If a doctor wants to request for denotification of a previously notified TB case, he fills in Part 1 and fax the form to Wanchai Chest Clinic (Fax: 2572 8921; Attention: Statistics Unit of TB&CS).
2. Upon receiving the request for denotification, Statistics Unit of TB&CS fills in Part 2 and fax back to the doctor for acknowledgment of receiving the request.
3. The Statistics Unit of TB&CS then fills in Part 3, and fax the form to the NO of the relevant Chest Clinic (the AE Chest Clinic) which has been handling this case as AE case, for further necessary actions.
4. The health nurse of AE Chest Clinic, upon receiving the fax, will take note of the denotification for further necessary actions. For example, if there is no evidence to suggest otherwise, the AE Chest Clinic will treat the case now as not a TB case, and discontinue the public health actions which would then become unnecessary. Alternatively, if the AE Chest Clinic, with the input of the doctor i/c of the case (when necessary), is of the opinion that the case should not be denotified, it will continue to carry out the necessary public health actions and inform Statistics Unit of TB&CS to ignore the request for denotification. Thus, the doctor i/c of the AE Chest Clinic fills in Part 4 and tick the appropriate item, and fax the form back to Statistics Unit of TB&CS. If the AE chest clinic does not have any additional information on whether to support or refute the denotification (e.g., patient is not being followed up at chest clinic), the doctor i/c of the AE Chest Clinic may tick the item “No comments”.
5. Upon receiving the fax return back from the AE Chest Clinic, the Statistics Unit will act accordingly, e.g., denotify the case or ignore the denotification request.
6. For cases denotified by chest clinic doctors, there is no need to fill in Part 3 and Part 4.

# OCCUPATIONAL SAFETY AND HEALTH ORDINANCE

## NOTIFICATION OF OCCUPATIONAL DISEASES

To : Commissioner for Labour

### PARTICULARS OF PATIENT

Name: \_\_\_\_\_ HKID/Passport no.: \_\_\_\_\_

Male/Female\*      Date of birth: \_\_\_\_ / \_\_\_\_ / \_\_\_\_      Occupation: \_\_\_\_\_

Home address: \_\_\_\_\_

Telephone no. (Home) \_\_\_\_\_ (Office) \_\_\_\_\_ (Pager/Mobile) \_\_\_\_\_

Name and address of employer: \_\_\_\_\_

\_\_\_\_\_ Telephone no. (Employer) \_\_\_\_\_

Workplace address (if different from employer's address): \_\_\_\_\_

For Internal  
use:

Code: \_\_\_\_\_

Code: \_\_\_\_\_

Code: \_\_\_\_\_

Code: \_\_\_\_\_

### NOTIFIABLE OCCUPATIONAL DISEASES *(Please put a tick in ☐)*

<input type="checkbox"/> 1	Radiation Illness	<input type="checkbox"/> 18	Lead Poisoning	<input type="checkbox"/> 35	Chrome Ulceration
<input type="checkbox"/> 2	Heat Cataract	<input type="checkbox"/> 19	Manganese Poisoning	<input type="checkbox"/> 36	Urinary Tract Cancer
<input type="checkbox"/> 3	Compressed Air Illness	<input type="checkbox"/> 20	Phosphorus Poisoning	<input type="checkbox"/> 37	Peripheral Polyneuropathy
<input type="checkbox"/> 4	Cramp of Hand or Forearm	<input type="checkbox"/> 21	Arsenic Poisoning	<input type="checkbox"/> 38	Localised Papillomatous or Keratotic New Skin Growth
<input type="checkbox"/> 5	Beat Hand	<input type="checkbox"/> 22	Mercury Poisoning	<input type="checkbox"/> 39	Occupational Vitiligo
<input type="checkbox"/> 6	Beat Knee	<input type="checkbox"/> 23	Carbon Bisulphide Poisoning	<input type="checkbox"/> 40	Occupational Dermatitis
<input type="checkbox"/> 7	Beat Elbow	<input type="checkbox"/> 24	Benzene Poisoning	<input type="checkbox"/> 41	Chemical Induced Upper Respiratory Tract Inflammation
<input type="checkbox"/> 8	Tenosynovitis of Hand or Forearm	<input type="checkbox"/> 25	Poisoning by Nitro-, Amino-, or Chloro- Derivatives of Benzene	<input type="checkbox"/> 42	Nasal or Paranasal Sinus Cancer
<input type="checkbox"/> 9	Anthrax	<input type="checkbox"/> 26	Dinitrophenol Poisoning	<input type="checkbox"/> 43	Byssinosis
<input type="checkbox"/> 10	Glanders	<input type="checkbox"/> 27	Poisoning by Halogen Derivatives of Hydrocarbons	<input type="checkbox"/> 44	Occupational Asthma
<input type="checkbox"/> 11	Leptospirosis	<input type="checkbox"/> 28	Diethylene Dioxide Poisoning	<input type="checkbox"/> 45	Silicosis
<input type="checkbox"/> 12	Extrinsic Allergic Alveolitis	<input type="checkbox"/> 29	Chlorinated Naphthalene Poisoning	<input type="checkbox"/> 46	Asbestos-Related Diseases
<input type="checkbox"/> 13	Brucellosis	<input type="checkbox"/> 30	Poisoning by Oxides of Nitrogen	<input type="checkbox"/> 47	Occupational Deafness
<input type="checkbox"/> 14	Tuberculosis in health care workers	<input type="checkbox"/> 31	Beryllium Poisoning	<input type="checkbox"/> 48	Carpal Tunnel Syndrome
<input type="checkbox"/> 15	Parenterally Contracted Viral Hepatitis in health care workers	<input type="checkbox"/> 32	Cadmium Poisoning	<input type="checkbox"/> 49	Legionnaires' Disease
<input type="checkbox"/> 16	Streptococcus suis Infection	<input type="checkbox"/> 33	Dystrophy of the Cornea	<input type="checkbox"/> 50	Severe Acute Respiratory Syndrome
<input type="checkbox"/> 17	Avian Chlamydiosis	<input type="checkbox"/> 34	Skin Cancer	<input type="checkbox"/> 51	Avian Influenza A

Diagnosis: Confirm/Suspect\*

Date of onset of illness: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Follow-up of patient: Treated/Referred to hospital/Others(specify)\*: \_\_\_\_\_

Other relevant information: \_\_\_\_\_

Name of notifying medical practitioner: \_\_\_\_\_

Address of notifying medical practitioner: \_\_\_\_\_

Telephone no. of notifying medical practitioner: \_\_\_\_\_

Fax no. of notifying medical practitioner: \_\_\_\_\_

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

*\*Delete whichever is inapplicable*

Please return this form by **fax (no. 25812049)** or by **mail** to Occupational Health Service, Labour Department, 15/F Harbour Building, 38 Pier Road, Central, Hong Kong.

For details of Notifiable Occupational Diseases and their related occupations, please refer to Schedule 2 of the Occupational Safety & Health Ordinance and to the Labour Department publication "Guidance Notes on the Diagnosis of Notifiable Occupational Diseases". Enquiry telephone no. : 2852 4041.

GUM LABEL of patient	DOS: __/__/____
	<i>(for chest clinic use only)</i> AE no.: _____ Cat.: _____ Tx no.: _____ DOA: __/__/____

**PFA1 - To be completed at around DOS (for TB patients)**

*[DOS = date of starting treatment (or, if patient defaulted > 2 months before starting anti-TB treatment, put down the date of diagnosis)]*

**Part (A) Information on this episode of TB:**

Reason for presentation: 1. Symptom / 2. Contact Screening / 3. Pre-employment / 4. Pre-emigration / 5. Other body check /

6. Incidental to other illness / 7. Others: \_\_\_\_\_

Contact with TB patients: N / Y: 1. Household / 2. Work / 3. Casual

1. within 2 year / 2. over 2 year

**Part (B) Case category** (choose 1 item only):

1. New case (< 1m previous Rx)      2. Relapse case.

(< 1m previous Rx)

3. Treatment after default.

4. Failure of previous treatment.

Date of last treatment (mm/yyyy): \_\_/\_\_/\_\_\_\_ Duration of last treatment: \_\_ months

**Part (C) Disease classification:** (please circle ≥ 1 item)

1. Pulmonary tuberculosis

Extent of disease: 1. minimal (total area < RUL) / 2. moderate (> RUL) / 3. advanced (> 1 lung)

Cavity: N / Y

Extra-pulmonary tuberculosis:

2. Pleura

7. Bone and joint (other than spine)

12. Pericardium

3. Lymph node

8. Spine

13. Skin

4. Meninges

9. Genito-urinary tract

14. Other site(1), specify \_\_\_\_\_

5. Miliary

10. Naso/oro-pharynx

15. Other site(2), specify \_\_\_\_\_

6. Abdomen

11. Larynx

16. Other site(3), specify \_\_\_\_\_

**Part (D) Risk Factors/co-morbidities N/Y** (If Y, please circle whichever applicable)

1. Diabetes mellitus

9. Alcoholism

2. Lung cancer

10. Drug abuser

3. Other malignancies

11. Gastrectomy

4. On cytotoxic drugs

12. General debilitation (e.g., due to old age, immobility, stroke, etc.)

5. On steroid

13. On biologics

6. Chronic renal failure

14. Other(1), specify \_\_\_\_\_

7. HIV: -ve / +ve / unknown/ pending

15. Other(2), specify \_\_\_\_\_

8. Silicosis

**Part (E) Starting regimen** (choose 1 item only):

*[Starting regimen = the regimen that the attending physician uses at initiation of anti-TB treatment]*

1. Standard regimen, defined as HRZ ± E or S (irrespective of dosing frequency)

2. Non-standard regimen, defined as regimens other than HRZ ± E or S

Reason for using non-standard regimen: 1. Known or suspected drug resistance / 2. Known drug intolerance / 3. Potential drug-drug interaction / 4. Known medical conditions affecting choice of regimen (e.g. liver disease, poor vision, etc), specify \_\_\_\_\_ / 5. Others, specify (e.g. old age): \_\_\_\_\_

Body weight \_\_\_\_ kg; body height / arm span \_\_\_\_ cm

Drug	Dosage and route	Dose interval (e.g. 3/7, 6/7)

Remark:

Completed by: \_\_\_\_\_ (name) Tel: \_\_\_\_\_ Fax: \_\_\_\_\_

Institution: 1. Chest Clinic / 2. Chest Hospital / 3. General Hospital / 4. Private Practice. ; Name (and ward) of institution: \_\_\_\_\_

*[After completion, this form should be sent to:*

1. *for chest clinics:* General Office, Tung Chung Chest Clinic, 1/F, Tung Chung Health Centre, Block 1, 6 Fu Tung Street, Tung Chung, Lantau Island. Fax: (852)2109 2240.

2. *for Correctional Services Department:* Statistics Unit, Tuberculosis and Chest Service Headquarters, 1/F, Wanchai Polyclinic, 99 Kennedy Road, Hong Kong. Fax: (852)2572 8921.]

**TB-PFA/12-2017**

**DH2417A**

GUM LABEL of patient	DOS: __/__/____
	<i>(for chest clinic use only)</i> AE no.: _____ Cat.: _____ Tx no.: _____ DOA: __/__/____

< **PFA2 : for chest clinic use only** >

**PFA2 - To be completed at around DOS (for TB patients)** *[DOS = date of starting treatment (or, if patient defaulted >2 months before starting anti-TB treatment, put down the date of diagnosis)]*

**Part (F) Urine test:**

Sugar: positive /negative /not done

Protein: positive /negative /not done

**Part (G) Visual acuity test and colour blindness test:**

Please stick  
the results of visual acuity test and blindness test  
here

Completed by: \_\_\_\_\_ (name) Tel: \_\_\_\_\_ Fax: \_\_\_\_\_

Institution: 1.Chest Clinic/ 2.Chest Hospital/ 3.General Hospital/ 4.Private Practice. ; Name (and ward) of institution: \_\_\_\_\_

*[After completion, this form should be sent to:*

1. *for chest clinics: General Office, Tung Chung Chest Clinic, 1/F, Tung Chung Health Centre, Block 1, 6 Fu Tung Street, Tung Chung, Lantau Island. Fax: (852)2109 2240.*
2. *for Correctional Services Department: Statistics Unit, Tuberculosis and Chest Service Headquarters, 1/F, Wanchai Polyclinic, 99 Kennedy Road, Hong Kong. Fax: (852)2572 8921.]*

**TB-PFA/12-2017**

GUM LABEL of patient	DOS: _/_/_/____
	<p><i>(for chest clinic use only)</i></p> <p>AE no.: _____ Cat.: _____</p> <p>Tx no.: _____ DOA: _/_/_/____</p>

**PFB – To be completed at 6 month from DOS (for TB patients)**

**Part (H) Mode of TB diagnosis:** <sup>1a</sup>. Bacteriological (based on positive smear and/or culture) <sup>1b</sup> Bacteriological (based on molecular test result)/ <sup>2</sup> Histological/ <sup>3</sup> Clinical-radiological/ <sup>4</sup> Clinical only (choose 1 item, priority from left to right)

**Bacteriological examination for MTB:** P (positive), N (negative), U (not done), NTM (Non-tuberculous Mycobacteria)

	Sputum			Other type of specimen: <sup>1</sup> gastric aspirate/ <sup>2</sup> pleural fluid/ <sup>3</sup> bronchial washing/ <sup>4</sup> urine/ <sup>5</sup> biopsy or others, specify: _____
	Pre-treatment	2 months	3 months	Pre-treatment
Smear	P / N / U	P / N / U	P / N / U	P / N / U
Culture	P / N / U / NTM	P / N / U / NTM	P / N / U / NTM	P / N / U / NTM
PCR	P / N / U			P/N/U
rpoB mutation (if PCR positive)	P / N / U			P/N/U

- If pre-treatment culture is positive for MTB, is the ST favourable? (i.e., sensitive to HRES): N / Y / U (ST not done)

**If unfavourable ST, please mark S (sensitive) or R (resistant) for all ST done:**

Isoniazid (H) : S / R	Pyrazinamide : S / R	Cycloserine : S / R
Rifampicin (R) : S / R	Ofloxacin : S / R	Other (1) : S / R
Ethambutol (E) : S / R	Ethionamide : S / R	Other (2) : S / R
Streptomycin (S) : S / R	Kanamycin : S / R	

**The ST result is based on phenotypic/genotypic test.**

Completed by: \_\_\_\_\_ (name) Tel: \_\_\_\_\_ Fax: \_\_\_\_\_

Institution: <sup>1</sup> Chest Clinic/ <sup>2</sup> Chest Hospital/ <sup>3</sup> General Hospital/ <sup>4</sup> Private Practice. ; Name (and ward) of institution: \_\_\_\_\_

[After completion, this form should be sent to:

1. for chest clinics: General Office, Tung Chung Chest Clinic, 1/F, Tung Chung Health Centre, Block 1, 6 Fu Tung Street, Tung Chung, Lantau Island. Fax: (852)2109 2240.

2. for Correctional Services Department: Statistics Unit, Tuberculosis and Chest Service Headquarters, 1/F, Wanchai Polyclinic, 99 Kennedy Road, Hong Kong. Fax: (852)2572 8921.]

**TB-PFB/12-2017**

GUM LABEL of patient	DOS: _ _ / _ _ / _ _ _ _
	<p><i>(for chest clinic use only)</i></p> <p>AE no.: _____ Cat.: _____</p> <p>Tx no.: _____ DOA: _ _ / _ _ / _ _ _ _</p>

**PFC – To be completed at 12 month from DOS (for TB patients)**

**Part (I) Outcome at 12 months (please ✓, circle and/ or fill in the spaces provided as appropriate)**

- (1) Cured/ treatment completed ☐ Date treatment completed (mm/yyyy): \_\_\_\_/\_\_\_\_/\_\_\_\_
- (a) Status at completion:
- Bacteriological conversion ☐
  - Radiological improvement ☐
  - Other clinical improvement ☐
  - No available evidence of response ☐
- (b) After treatment completed:
- No relapse ☐
- Loss to follow-up ☐
- Died ☐ Cause: <sub>1</sub>TB-related/ <sub>2</sub>Not TB-related/ <sub>3</sub>Unknown
- Relapse ☐
- <sub>1</sub>Bacteriological / <sub>2</sub>Histological / <sub>3</sub>Clinical-radiological (choose 1 item, priority from left to right)
- Last visit date (mm/yyyy): \_\_\_\_/\_\_\_\_/\_\_\_\_
- Date of death (mm/yyyy): \_\_\_\_/\_\_\_\_/\_\_\_\_
- Date relapse (mm/yyyy): \_\_\_\_/\_\_\_\_/\_\_\_\_
- (2) Treatment incomplete (including death while on treatment) ☐
- Still on treatment, reason: <sub>1</sub>retreatment/ <sub>2</sub>extrapulm./ <sub>3</sub>extensive/ <sub>4</sub>interrupted treatment/ <sub>5</sub>drug resistance/ <sub>6</sub>poor response/ <sub>7</sub>non-standard regimen/ <sub>8</sub>DM or on immunosuppressives etc/ <sub>9</sub>others, specify: \_\_\_\_\_
  - Died ☐ Cause: <sub>1</sub>TB-related/ <sub>2</sub>Not TB-related/ <sub>3</sub>Unknown
- Date of death (mm/yyyy): \_\_\_\_/\_\_\_\_/\_\_\_\_
- (3) Transferred ☐ to: <sub>1</sub>GP/ <sub>2</sub>Chest Clinic/ <sub>3</sub>Hospital/ <sub>4</sub>Outside HK
- Details: \_\_\_\_\_
- Last treatment date (mm/yyyy): \_\_\_\_/\_\_\_\_/\_\_\_\_
- (4) Defaulted (defaulted treatment for a continuous period > 2m) ☐
- Never found ☐
  - Retreated after default ☐
  - Treatment stopped by doctor ☐
- Last visit date (mm/yyyy): \_\_\_\_/\_\_\_\_/\_\_\_\_
- Date treatment re-started (mm/yyyy): \_\_\_\_/\_\_\_\_/\_\_\_\_
- Last treatment date (mm/yyyy): \_\_\_\_/\_\_\_\_/\_\_\_\_
- (5) Failure (persistent positive bacteriology and treatment stopped) ☐
- (6) Wrong/ revised diagnosis ☐
- Last treatment date (mm/yyyy): \_\_\_\_/\_\_\_\_/\_\_\_\_
- New diagnosis: \_\_\_\_\_

Completed by: \_\_\_\_\_ (name) Tel: \_\_\_\_\_ Fax: \_\_\_\_\_

Institution: <sub>1</sub>Chest Clinic/ <sub>2</sub>Chest Hospital/ <sub>3</sub>General Hospital/ <sub>4</sub>Private Practice. ; Name (and ward) of institution: \_\_\_\_\_

[After completion, this form should be sent to:

1. for chest clinics: General Office, Tung Chung Chest Clinic, 1/F, Tung Chung Health Centre, Block I, 6 Fu Tung Street, Tung Chung, Lantau Island. Fax: (852)2109 2240.

2. for Correctional Services Department: Statistics Unit, Tuberculosis and Chest Service Headquarters, 1/F, Wanchai Polyclinic, 99 Kennedy Road, Hong Kong. Fax: (852)2572 8921.]

**TB-PFC/12-2017**

GUM LABEL of patient	DOS: __/__/____
	<i>(for chest clinic use only)</i> AE no.: _____ Cat.: _____ Tx no.: _____ DOA: __/__/____

**PFD – To be completed at 24 month from DOS (for TB patients)**

**Part (J) Outcome at 24 months (please ✓, circle and/ or fill in the spaces provided as appropriate)**

- (1) Cured/ treatment completed ☐ Date treatment completed (mm/yyyy): \_\_\_\_/\_\_\_\_/\_\_\_\_
- (a) Status at completion:
- Bacteriological conversion ☐
  - Radiological improvement ☐
  - Other clinical improvement ☐
  - No available evidence of response ☐
- (b) After treatment completed:
- No relapse ☐
- Loss to follow-up ☐
- Died ☐ Cause: <sub>1</sub>TB-related/ <sub>2</sub>Not TB-related/ <sub>3</sub>Unknown
- Relapse ☐
- <sub>1</sub>Bacteriological / <sub>2</sub>Histological / <sub>3</sub>Clinical-radiological / <sub>4</sub>Clinical only (choose 1 item, priority from left to right)
- Last visit date (mm/yyyy): \_\_\_\_/\_\_\_\_/\_\_\_\_
- Date of death (mm/yyyy): \_\_\_\_/\_\_\_\_/\_\_\_\_
- Date relapse (mm/yyyy): \_\_\_\_/\_\_\_\_/\_\_\_\_
- (2) Treatment incomplete (including death while on treatment) ☐
- Still on treatment, reason: <sub>1</sub>retreatment/ <sub>2</sub>extrapulm./ <sub>3</sub>extensive/ <sub>4</sub>interrupted treatment/ <sub>5</sub>drug resistance/ <sub>6</sub>poor response/ <sub>7</sub>non-standard regimen/ <sub>8</sub>DM or on immunosuppressives etc./ <sub>9</sub>others, specify: \_\_\_\_\_
  - Died ☐ Cause: <sub>1</sub>TB-related/ <sub>2</sub>Not TB-related/ <sub>3</sub>Unknown
- Date of death (mm/yyyy): \_\_\_\_/\_\_\_\_/\_\_\_\_
- (3) Transferred ☐ to: <sub>1</sub>GP/ <sub>2</sub>Chest Clinic/ <sub>3</sub>Hospital/ <sub>4</sub>Outside HK
- Details: \_\_\_\_\_
- Last treatment date (mm/yyyy): \_\_\_\_/\_\_\_\_/\_\_\_\_
- (4) Defaulted (defaulted treatment for a continuous period > 2m) ☐
- Never found ☐
  - Retreated after default ☐
  - Treatment stopped by doctor ☐
- Last visit date (mm/yyyy): \_\_\_\_/\_\_\_\_/\_\_\_\_
- Date treatment re-started (mm/yyyy): \_\_\_\_/\_\_\_\_/\_\_\_\_
- Last treatment date (mm/yyyy): \_\_\_\_/\_\_\_\_/\_\_\_\_
- (5) Failure (persistent positive bacteriology and treatment stopped) ☐
- (6) Wrong/ revised diagnosis ☐
- Last treatment date (mm/yyyy): \_\_\_\_/\_\_\_\_/\_\_\_\_
- New diagnosis: \_\_\_\_\_

Completed by: \_\_\_\_\_ (name) Tel: \_\_\_\_\_ Fax: \_\_\_\_\_

Institution: <sub>1</sub>Chest Clinic/ <sub>2</sub>Chest Hospital/ <sub>3</sub>General Hospital/ <sub>4</sub>Private Practice. ; Name (and ward) of institution: \_\_\_\_\_

[After completion, this form should be sent to:

1. for chest clinics: General Office, Tung Chung Chest Clinic, 1/F, Tung Chung Health Centre, Block 1, 6 Fu Tung Street, Tung Chung, Lantau Island. Fax: (852)2109 2240.

2. for Correctional Services Department: Statistics Unit, Tuberculosis and Chest Service Headquarters, 1/F, Wanchai Polyclinic, 99 Kennedy Road, Hong Kong. Fax: (852)2572 8921.]

**TB-PFD/12-2017**